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THE SOUL AND ITS INSTRUMENTAL BODY

*A Reinterpretation of Aristotle's
Philosophy of Living Nature*

BY

A.P. BOS



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INTRODUCTION

‘if I could begin to understand *pneuma*, I should begin to understand Aristotle’.

J.M. Rist, *The mind of Aristotle* p. xvii

νοῦς γὰρ ψυχῆς ὅσῳ ψυχὴ σώματος ἄμεινόν ἐστι καὶ θειότερον

‘In the same degree as soul is superior to body, so is mind better and more divine than soul’.

Plutarch, *De facie in orbe lunae* 943A

This book is the fruit of seed sown in 1964. On the advice of one of my teachers, Prof. D.H.T. Vollenhoven, I read, while sailing on the Frisian lakes for a week, W. Jaeger’s famous book *Aristoteles. Grundlegung einer Geschichte seiner Entwicklung*, dating from 1923. In the Netherlands scholars had become wholly convinced, partly due to studies by F.J.C.J. Nuyens and F. Sassen, that the philosophy of the great Aristotle could only be understood from the perspective of a historical development. For almost thirty years since that first introduction to the scholarly interpretation of Aristotle’s work I have been occupied with various facets of Aristotle’s legacy in the framework of Jaeger’s paradigm.

For my dissertation I had chosen the subject of Aristotle’s *De caelo* and had become fascinated by the doctrine of the fifth element set out there. This naturally led to a study of reports in Cicero that Aristotle identified a *quinta essentia* as the matter which made up not only the stars and planets but also human souls. The title of my thesis shows how much I had been influenced by W. Jaeger, A.J. Festugière, W.K.C. Guthrie, and J. Pépin. In *De caelo* I clearly recognized an ‘earlier layer’ of pure cosmic philosophy and believed it could be distinguished from the ‘later revision’ in which Aristotle had elaborated his theory of a metaphysical Unmoved Mover.¹

While working on the thesis, I often came across reports in Antiquity that Aristotle had held a very special doctrine of divine

¹ Cf. A.P. Bos, *On the elements. Aristotle’s early cosmology* (Assen 1973).

Providence. This Providence was operative in the supralunary, astral sphere, but did not extend to the human world in the sublunary sphere. In 1976 I published a small study on this subject.²

Almost imperceptibly I thus arrived at the work *De mundo* in the Aristotelian Corpus, which on the authority of A.J. Festugière was (and still is) generally held to be pseudo-Aristotelian. In 1974, however, G. Reale argued at length that the grounds for rejection were extremely weak.³ Festugière believed that the broad tradition about an Aristotelian doctrine of limited divine Providence was due to the influence of the late Hellenistic work *De mundo*, which had wrongly come to be regarded as Aristotelian. I have always been intrigued how such a work—late and mediocre in the view of modern authors—was able to bring about such a broad but spurious tradition regarding Aristotle's theology.

Besides reviewing Reale's commentary, I wrote an article on *De mundo* which appeared in 1979, and this work has continued to interest me.⁴ These various contributions were finally integrated in a completely revised edition of the text of *De mundo* with commentary in 1995.⁵

Meanwhile I had intensively studied the fragments of Aristotle's lost works. The starting-point here was a report in Tertullian that at some point Aristotle had talked about a 'dreaming god Kronos'. This theme led to a study of the Hermetic Corpus and Plutarch's *De facie*

² A.P. Bos, *Providentia divina. The theme of divine pronia in Plato and Aristotle* (Assen 1976).

³ G. Reale, *Aristotele. Trattato sul cosmo per Alessandro. Traduzione con testo greco a fronte. Introduzione, commento e indici* (Napoli 1974).

⁴ *Vigil. Christ.* 32 (1978) 66-69; 'The theological conception in *De mundo* and the relation between this writing and the work of Plato and Aristotle', *Tijdschr. v. Filos.* 39 (1977) 314-330; 'Notes on Aristotle's *De mundo* concerning the discussion of its authenticity', *Philos. Inquiry* 1 (1979) 141-153; 'Greek philosophical theology and the *De mundo*', T.G. Sinnige (ed.), *On and off the beaten track. Studies in the history of Platonism* (Nijmegen 1986) 1-30; *Aristoteles, Over de kosmos*, ingel., vertaald en van aantekeningen voorzien (Meppel 1989); 'Considerazioni sul *De mundo* e analisi critica delle tesi di Paul Moraux', *Riv. di filos. neo-scolastica* 82 (1990) 587-606; 'Supplementary notes on the *De mundo*', *Hermes* 119 (1991) 312-332; 'Over de kosmos. De herontdekking van een bewaard gebleven geschrift van Aristoteles?', *Algem. Ned. Tijdschr. v. Wijsbeg.* 85 (1993) 169-180; 'Clement of Alexandria on Aristotle's (cosmo-)theology (Clem. *Protr.* 5, 66, 4)', *Class. Quart.* 43 (1993) 177-188; 'La *Metafisica* di Aristotele alla luce del trattato *De mundo*', *Riv. di filos. neo-scolastica* 85 (1993) 425-454.

⁵ G. Reale, A.P. Bos, *Il trattato sul Cosmo per Alessandro attribuito ad Aristotele. Monografia introduttiva, testo greco con traduzione a fronte, comm., bibliografia ragionata e indici* (Milano 1995).

in orbe lunae, where the same motif of a 'sleeping/dreaming god Kronos' played a role.⁶

These studies made it clearer to me that Aristotle in his lost writings had already distinguished between a cosmic World-ruler (Kronos) and a metacosmic, transcendent God (Zeus). I came to suspect strongly that the 'dreaming god Kronos' had served as a model for the concept of the 'sleeping World-soul' found in Alcinous and Plutarch.

Having found a series of arguments for connecting the motif of the 'dreaming god Kronos' not with Aristotle's *Protrepticus* but with his *Eudemus* or *On the soul*, I came to the conclusion that 'the dreaming god Kronos' was related to Aristotle's transcendent First Mover in the same way as the soul as 'first entelechy' is related to the soul as realized entelechy, in accordance with the distinction formulated by Aristotle in *De anima* II 1, 412a23-26. In this study I was therefore able to argue confidently for the first time that the paradigm of W. Jaeger had to be abandoned: the basis supporting Jaeger's paradigm, the fundamental opposition between the theory of soul in Aristotle's *Eudemus* and that of *De anima*, could no longer be maintained.⁷

In subsequent years I went back to examine Aristotle's biological writings and *De anima*. Here I came across the curious situation that the view which was and is traditionally ascribed to Aristotle on the basis of *De anima* II 1 does not occur anywhere else in the Corpus; nor indeed is any trace of it to be found in the classical tradition during several centuries after Aristotle's death.

In 1995 it then dawned upon me that there is something fundamentally wrong with the interpretation of the word '*organikon*' in the definition of the soul in Aristotle, *De anima* II 1. I realized that '*organikon*' could not possibly mean 'equipped with organs', because everywhere else in the Aristotelian Corpus it stood for 'serving as an instrument'. In the proofs of the joint commentary with G. Reale in 1995 I therefore proposed a reinterpretation of this definition: 'la definizione dell' anima in *De anima* II 1, 412b5 ... (debbe) essere interpretata come segue: l'anima è l'*entelechia* del *pneuma* che è l'organo dell'anima'.⁸

⁶ Cf. A.P. Bos, *Cosmic and meta-cosmic theology in Aristotle's lost dialogues* (Leiden 1989). Italian ed.: *Teologia cosmica e meta-cosmica. Per una nuova interpretazione dei dialoghi perduti di Aristotele* (Milano 1991).

⁷ A.P. Bos, *Cosmic and meta-cosmic theology* 97-107; Ital. ed. 188-202.

⁸ G. Reale, A.P. Bos (1995) 288.

Thus after thirty years a drastic reorientation of my views was prompted by the insight that there are not enough grounds for assuming a change in Aristotle's position.

At the same time it is clear to me that Jaeger's book was necessary to start the development which could lead to a refutation of his theory; but also that, intriguingly, it immunized itself against possible refutations. Jaeger demonstrated once and for all that Aristotle wrote quite a few works which we no longer possess, and that it is crucial for our knowledge of his thought to look carefully at the attestations and fragments of these works. But Jaeger ensured, too, that these works were not used as a key to gain access to the Aristotelian Corpus, but were set apart as testimonies to a position abandoned by Aristotle.

The aim of the present study is to show that Aristotle's extant writings can and should be consistently read as agreeing with the content of his lost works. This means that Aristotle's introduction of the doctrine of a 'fifth element' was an integral part of his discussion with his teacher Plato on the cosmos and on the soul. Just as the order and life of the cosmos depend on the fine-material astral body, so the soul of every living individual is inseparable from a 'natural body' which possesses something of the astral element. Aristotle thus adopted a position which moves clearly away from his great and admired teacher Plato, and which anticipated the hylozoistic cosmology and psychology of the Stoa.

But this theory can only be argued if it can be shown that the explanation of Aristotle's philosophy went astray not just from 1964 or 1923, but from the time of Alexander of Aphrodisias, who worked around AD 200.

Various results of this new project were previously presented in the form of articles.⁹

⁹ 'Aristotle's psychology: diagnosis of the need for a fundamental reinterpretation', *Amer. Cathol. Philos. Quart.* 73 (1999) 309-331; 'Plutarch's testimony to an earlier explanation of Aristotle's definition of the soul', A. Pérez Jiménez, J. García López, R.M. Aguilar (eds), *Plutarco, Platón y Aristóteles. Actas del V Congreso Internacional de la I.P.S.* (Madrid 1999) 535-548; 'Basilides as an Aristotelianizing Gnostic', *Vigil. Christ.* 54 (2000) 44-60; 'Why the soul needs an instrumental body according to Aristotle (*Anim.* I 3, 407b13-26)', *Hermes* 128 (2000) 20-31; 'Aristotle's *De anima* II 1: the traditional interpretation rejected', D. Sfendoni-Mentzou; J. Hattiangadi; D. Johnson (eds), *Aristotle and contemporary science*, (New York 2001) vol. 2, 187-201; 'The distinction between "Platonic" and "Aristotelian" dualism, illustrated from Plutarch's myth in *De facie in orbe lunae*', A. Pérez Jiménez (ed.), *Estudios sobre Plutarco* (Madrid-Málaga 2001) 57-70; 'Pneuma and aether in Aristotle's philosophy of living nature', *The modern schoolman* 79 (2002); '"Aristotelian" and "Platonic" dualism in Hellenistic and early christian philosophy and in gnosticism',

A short version of the present book was published in Dutch for the use of students.¹⁰

I am grateful to the Netherlands Organization for Scientific Research (NWO) for providing a grant towards an English translation.

The critical discussions on themes from this study in the Research Group for Ancient, Patristic, and Medieval Philosophy at the Faculty of Philosophy in the Free University and in the national Aristotle study group were very stimulating for me.

The help of my brother, Dr C.A. Bos, Dr R. Ferwerda, Dr. T.H. Janssen and prof. dr. G.P. Luttikhuisen are specially acknowledged here. I would like to thank A.P. Runia for translating my Dutch text into English.

Vigil. Christ. 56 (2002) 273-291; 'Aristotle on the Etruscan robbers: a core text of "Aristotelian" dualism', *J. Hist. Philos.* 41 (2003); "Fire above": the relation of soul to its instrumental body in Aristotle's *De longitudine et brevitae vitae* 2-3', *Ancient philosophy* 22 (2003); 'Die Aristotelische Lehre von der Seele: Widerrede gegen die moderne Entwicklungshypothese', H.D. Klein (ed.), *Der Begriff der Seele in der Geschichte der Philosophie* Bd 2 (Würzburg/Wien: Königshausen und Neumann 2002);

¹⁰ *De ziel en haar voertuig. Aristoteles' psychologie geherinterpreteerd en de eenheid van zijn oeuvre gedemonstreerd* (Leende 1999).

CHAPTER ONE

ARISTOTLE'S PSYCHOLOGY RECONSIDERED

The De anima and the Eudemus

'The soul is the first *entelecheia* of a *sôma physikon* which is "*organikon*". By means of this definition of the soul¹ in *De anima* II 1 Aristotle believed that he could lift the debate on the soul, as principle of all living creatures, to a level on which it had not yet been conducted in previous centuries. It is an intriguing definition through the use of the term *entelecheia*, which is Aristotle's own creation, but the background and intention of which he fails to make clear anywhere else in his extant work.² But it is even more important that this definition has always been explained as a formulation of Aristotle's own and final psychology and is taken to mean that the soul is the formal or structural principle of the visible, material body of a plant, animal, or human being. The bodies of these living creatures were supposedly regarded by Aristotle as 'natural organic bodies' or as 'natural bodies equipped with organs'.³ Understood in this way, the definition seems to imply a radical break, not only with the psychological theories of all those who seemed to be philosophically related to Aristotle, including his teacher Plato, but also with the view of the soul which he himself had explicitly held. His famous dialogue entitled *Eudemus*

¹ Arist. *Anim.* II 1, 412b5: ἐντελέχεια ἡ πρώτη σώματος φυσικοῦ ὀργανικοῦ.

² Cf. S. Menn, 'The origins of Aristotle's concept of 'Ενέργεια: 'Ενέργεια and Δύναμις', *Ancient philosophy* 14 (1994) 73-114, p. 100: 'The word ἐντελέχεια occurs only in Aristotle and in writers who are obviously imitating him, and Aristotle never gives an explicit account of its origin or etymology'. He adds: 'but the meaning is clear enough'. See also C.-H. Chen, 'The relation between the terms 'Ενέργεια and 'Εντελέχεια in the philosophy of Aristotle', *Class. Quart.* 52 (1958) 12-17; L. Coulobaritsis, 'La notion d'ENTELECHEIA dans la *Métaphysique*', *Aristotelica. Mélanges offerts à M. de Corte* (Bruxelles 1985) 129-155; D.W. Graham, 'The etymology of "Εντελέχεια", *Am. J. of Philol.* 110 (1989) 73-80; G.A. Blair, 'Aristotle on ἐντελέχεια. A reply to Daniel Graham', *Am. J. of Philol.* 114 (1993) 91-97; id. 'Ενέργεια and ἐντελέχεια: "Act" in Aristotle (Ottawa 1992). I will discuss the meaning of this term in chapter 6 below.

³ Cf. the quotation of J. M. Rist cited below. For a selection of modern translations of Aristotle's definition of the soul, see chapter 5.

or *On the Soul* undoubtedly advanced the view that man's death meant 'a return home', a 'repatriation' for his soul.⁴

In fact, one can say that the theories of the soul in *De anima* and in the *Eudemus* were regarded as so evidently incompatible that it was seen as one of the most solid foundations for an approach to Aristotle's philosophical oeuvre in terms of a historical development. W. Jaeger was the leading exponent of this approach.⁵ The Dutch scholar F.J.C.J. Nuyens adopted Jaeger's hypothesis and believed he could give it an even more solid basis by focussing the history of Aristotle's development on one facet of his thought, namely his theory of the soul (with the theory of the intellect as annex), in which three phases can be clearly distinguished, in Nuyens's view.⁶ Although in the decades following the publication of Jaeger's work a number of the arguments which he had used to show a change in Aristotle's philosophical position has come under severe criticism,⁷ the hypothesis of an early phase of Aristotle's psychology (represented by the *Eudemus*) and a more 'mature' one (represented in the treatise *De anima*) is still widely accepted. J. Pépin regarded the work

⁴ Cf. Cic. *Div.* I 25, 53 = Arist. *Eudem.* fr. 1 Ross (ed. *Aristotelis fragmenta selecta*, recogn. W.D. Ross, Oxford 1955; repr. 1964); fr. 56 Gigon (ed. *Aristotelis Opera*, vol. III *Deperditorum librorum fragmenta*, collegit O. Gigon (Berlin 1987) and *Plu. Mor. (Consol. ad Apollonium)* 115B-C = Arist. *Eudem.* fr. 6 Ross; 65 Gigon. However, we shall have to examine how this report accords with the information in Themistius and others (*Eudem.* fr. 2 Ross; 58 Gigon) that in the *Eudemus*, too, Aristotle attributed immortality in the proper sense only to the intellect. See chapter 13.

⁵ W. Jaeger, *Aristoteles. Grundlegung einer Geschichte seiner Entwicklung* (Berlin 1923; repr. 1955); Eng. ed.: *Aristotle. Fundamentals of the history of his development*, transl. with the author's corrections and additions by R. Robinson (Oxford 1934; 2nd ed. 1948; repr. 1962).

⁶ F.J.C.J. Nuyens, *Ontwikkelingsmomenten in de zielkunde van Aristoteles. Een historisch-philosophische studie* (Nijmegen-Utrecht 1939); French ed.: *L'évolution de la psychologie d'Aristote* (Louvain 1948).

⁷ For Jaeger's contention that Aristotle was initially a Platonist in the sense that he supported the theory of Ideas, see I. Düring with many publications since his 'Problems in Aristotle's *Protrepticus*', *Eranos* 52 (1954) 139-171; id. 'Aristotle and Plato in the mid-fourth century', *Eranos* 54 (1956) 109-120; see also his 'Did Aristotle ever accept Plato's theory of transcendent Ideas?', *A.G.P.* 48 (1966) 312-316.

For the idea that Aristotle initially had speculative and theological interests, but later attached more value to scientific research in an almost modern, positivist sense, cf. A.P. Bos, *Cosmic and meta-cosmic theology in Aristotle's lost dialogues* (Leiden 1989) 97-101; Italian ed. 188-194.

For the claim of H. von Arnim, W.K.C. Guthrie, A.J. Festugière, J. Pépin, H.J. Easterling and J.M. Rist that Aristotle initially held a 'cosmic theology' and that this was only later 'complemented' by the theology of a transcendent Unmoved Mover, cf. A.P. Bos, *Cosmic and meta-cosmic theology* 94 and 187-188; Italian ed. 184 and 313-316.

of F. Nuyens as an irrefutable result of modern scientific research and used it as the starting-point for his own inquiry into the 'cosmic theology' of the 'early Aristotle'.⁸

The place of De anima in the whole of Aristotle's oeuvre

But the position of *De anima* is very problematical, as the studies of many modern authors show.⁹ The largest stumbling block here is the fact that, besides the psychology of *De anima*, the extant writings of Aristotle contain another view, particularly in the biological writings, in which an important role is assigned to the 'innate *pneuma*' or the 'innate vital heat' or the 'natural fire' in the explanation of everything that lives and grows. In these writings this *pneuma* or vital heat has a mediatory function between the soul of the individual creature and its perceptible body. This view was often regarded as incompatible with the *De anima* conception, in which any gap between body and soul appeared to be cancelled by the supposition of the soul as *entelecheia* or *eidos* (form) of the visible body. This observation led to a supplementary hypothesis of an extra phase in the evolution of Aristotle's psychological views. Usually the view of *De anima* was seen as the final point of this development, and the *pneuma* theory of the biological works as a position between the early theory of the *Eudemus* and the late one of *De anima*. However, I. Block has contended that the positions of *De anima* and the biological works should be turned around.¹⁰

⁸ Cf. J. Pépin, *Théologie cosmique et théologie chrétienne* (Paris 1964) 10, where the author talks about the 'réussites incontestables' of Nuyens's study.

⁹ R. Sorabji, 'From Aristotle to Brentano: the development of the concept of intentionality', H. Blumenthal; H. Robinson (eds), *Aristotle in the later tradition* (Oxford 1991) 227 is not exaggerating when he says: 'Aristotle's *On the soul* or *De anima* is probably the most variously interpreted of his works'. C. Shields, 'Soul and body in Aristotle', *Oxf. Stud. in Anc. Philos.* 6 (1988) 103-137, notes on p. 103: '.... virtually no progress toward a consensus has been attained. On the contrary, one finds an alarmingly large and diverse literature on Aristotle's account of soul/body relations'. M. Tweedale, 'Aristotle's motionless soul', *Dialogue* 29 (1990) 123-132 talking about Aristotle's psychology, also uses strong language like 'insuperable difficulty' and 'one of the most unresolvable of the tensions that afflict his thought'.

¹⁰ Cf. I. Block, 'The order of Aristotle's psychological writings', *Am. J. of Philol.* 82 (1961) 50-77. Soon afterwards his view was strongly endorsed by W.F.R. Hardie, *Ph. Q.* 14 (1964) 53-72.

An apt example of the confusion which has arisen on this point is a page from an important article by J.M. Rist.¹¹ After mentioning Aristotle's theory of *pneuma*, he goes on to say:

But one of the most important features of Aristotle's thought about *pneuma* is that it developed as an attempt to bridge the apparent gap between soul and body. Now we might suppose that in Aristotle's mature thought there is no real gap to be bridged, for, as *De anima* has it (412b5) soul is the actuality (or form) of a natural body equipped with organs. But the phrase "equipped with organs" conceals the problem which concerned Aristotle. Since the soul is form, and in a sense immaterial—indeed there is at least one Aristotelian form which has no body at all—then how can an immaterial soul effect, or in Aristotle's language, "move", a material body? In fact it moves it through the agency of "organs", "instruments", and the most important of these instruments is the *inborn pneuma*.¹²

It is remarkable that *De anima* seems to offer no scope for a theory of *pneuma* that activates the parts of the visible body, whereas the same theory of *pneuma* has to solve a problem of the *De anima* theory, viz. how an incorporeal soul is able to influence the corporeal visible body.

It could also be considered unsatisfactory that in his extensive survey of earlier psychological theories in *De anima* I Aristotle ignores his own psychology of the *Eudemus*, while it seems to have been abandoned in *De anima* II 1.

Pneuma and ether

Another remarkable point is that Aristotle himself made a striking connection between his *pneuma* theory and the doctrine of the divine, fifth element of which the celestial spheres and the astral gods

¹¹ J.M. Rist, 'On Greek biology, Greek cosmology and some sources of theological *pneuma*', *Prudentia*, suppl. vol. VI (Auckland 1985) 27-47. repr. in id. *Man, soul and body. Essays in ancient thought from Plato to Dionysius*, ch. V (Aldershot 1996).

¹² J.M. Rist (1985) 28. *Pneuma* is explicitly presented as 'that which bridges the gap between the immaterial *ὑπερθεῖς* on the one hand and the material limbs of the body on the other' by A.L. Peck, *Aristotle, Generation of animals* (London 1942) 579. G. Freudenthal, *Aristotle's theory of material substance* (Oxford 1995) 136 claims: 'the connate *pneuma* was intended to be the physiological "operator" of the entire (non-intellective) soul'. M.C. Nussbaum, *Aristotle's De motu animalium* (Princeton 1978; repr. 1985) 163 regards *pneuma* as 'a hypothetical gap-filler', but fails to give the concept a meaningful place in Aristotle's philosophy as a whole. She believes that Aristotle did not get around to fully developing and integrating this theory.

are made.¹³ This doctrine of the fifth element was already developed by Aristotle in the works published during his lifetime, for example in his multipartite work *On philosophy*.¹⁴ Moreover, Cicero reports in a number of intriguing texts that, in Aristotle's view, an entire series of functions which are characteristic of human existence cannot be regarded as connected with the four elements of the sublunary sphere, and that he had therefore declared these functions to be connected with ether or the *quinta essentia*.¹⁵ This led some authors to consider seriously that Aristotle in his lost works had also developed a form of psychology which seemed "materialistic" or at least "hylozoistic" in kind.¹⁶

We can add that the psychology which is traditionally ascribed to Aristotle on the basis of the text of *De anima* did not play any role in the philosophical discussion during the first five centuries after Aristotle's death. It only became current through the activities of Alexander of Aphrodisias as a commentator on Aristotle's works from the third century AD.

¹³ Arist. *Gener. anim.* II 3, 736b29-737a7.

¹⁴ Cf. Cic. *N.D.* I 13, 33 = Arist. *Philos.* fr. 26 Ross; fr. 25, 1 Gigon. The attempt by D.E. Hahm, 'The fifth element in Aristotle's *De philosophia*', *J.H.S.* 102 (1982) 60-74 to show that the doctrine of the fifth element did not yet play a role in the *De philosophia*, which is supported by G. Freudenthal (1995) 86ff., breaks down on the intrinsic relationship of the doctrine of the fifth element with Aristotle's criticism of Plato's doctrine of the creation of the world and the psychology of the *Timaeus*. Cf. A.P. Bos, *Cosmic and meta-cosmic theology* 89-95; Italian ed. 177-185.

¹⁵ Cf. Cic. *Acad.* 1, 7, 26; *Tusc.* 1, 10, 22; 1 17, 41; 1, 26, 65-27, 66 = Arist. *Philos.* fr. 27 Ross; T 18, 1 and fr. 994; 995; 996 Gigon. On the relationship between *pneuma* and *ether*, see A. Preus, *Science and philosophy in Aristotle's biological works* (Hildesheim/New York 1975) 86-89 and id. 'Man and cosmos in Aristotle's *Metaphysics* A and the biological works', D. Devereux, P. Pellegrin (eds.), *Biologie, logique et métaphysique chez Aristote* (Paris 1990) 478-484.

¹⁶ Cf. P. Merlan, in A.H. Armstrong, *C.H.L.G.M.Ph.* (Cambridge 1967; repr. 1970) 40-41 with n. 9, who mentions F.F. Kampe (1870) and H. von Arnim as defenders of this view. Merlan himself also concludes: 'Much in the history of the Peripatos can be better understood if we side with Kampe and Arnim and take into account that the materialistic interpretation of Aristotle was, in antiquity, very frequent and started very early'. See also W.K.C. Guthrie, *Class. Quart.* 27 (1933) 169; A.J. Festugière, *La révélation d'Hermès Trismégiste*, vol. II (Paris 1949) 247-259. J. Pépin, *Théologie cosmique et théologie chrétienne* (Paris 1964) 226-234; 475-492. C. Shields (1988) 105 observed: 'The preponderance of contemporary criticism represents Aristotle as some sort of weak materialist'.

What precisely is the meaning of 'sôma physikon organikon'?

For all these reasons I think it is desirable and legitimate to reconsider the entire problem of Aristotelian psychology. The criticism urged against various parts of the views of W. Jaeger and F. Nuyens in the past decades should perhaps be carried through in its final consequences. Perhaps we should decide to stop interpreting the information about Aristotle's lost works as 'Platonistic'. And then we should perhaps interpret the surviving work much more rigorously against the background of the philosophical views of his lost works, with which Aristotle established his reputation as a great philosopher.

My leading principle here is the question: *is it perhaps possible to harmonize the psychological theories of Aristotle's dialogues (1), of his biological works (2), and of his De anima (3)?* Such an undertaking could seem possible if we focus specifically on the definition of the soul in *De anima* II 1 and ask: of which *sôma physikon organikon* is the soul the *entelecheia*? For in principle this question can be given a different answer from the generally accepted one:

A. The standard view,¹⁷ which we already encountered in the quotation of J.M. Rist above, means: the soul is the first *entelecheia* of the entire visible, gross-material body of man, animal, or plant, which is equipped with organs. An idea that goes with this view is that the soul cannot exist without the visible body and therefore has no post-mortal existence but perishes with the visible body. As we said, however, there is no trace of an interpretation of Aristotle's psychology along these lines in the five centuries between Aristotle's death and the teaching activity of Alexander of Aphrodisias around AD 200.

Also, this interpretation takes the words '*sôma physikon*' in a sense which has no parallel in the philosopher's writings, while the term '*organikon*', which occurs frequently in Aristotle's work (in the sense of 'instrumental', 'serving as an instrument'¹⁸), is read differently (namely as 'equipped with organs') only in this very important definition.

¹⁷ R. Bolton, 'Aristotle's definition of the soul: *de Anima* II, 1-3', *Phronesis* 23 (1978) 258-278, remarks in n. 6 on p. 275: 'The rendering of σῶμα ὀργανικόν (412b5-6) as "a body with organs" is standard and 412a28-b4 strongly supports it'. However, he goes on to note: 'another possible rendering is "a body which serves as an instrument"', but then rejects this translation. In doing so Bolton fails to mention that elsewhere in the Aristotelian Corpus the term ὀργανικόν never means 'equipped with organs' but always 'serving as an instrument' or 'instrumental to'.

¹⁸ As in *Anim.* III 9, 432b18 and b25.

Note that Aristotle, if he were simply talking about the soul on the one hand and the (visible) body on the other, repeatedly formulated this in a very complicated way. Such a complexity is often a sign that the traditional explanation may not be the one intended by Aristotle.

Finally, the traditional view sees the soul as the *entelechy* and form of the body, but fails to make it clear, as Rist rightly observed, what is the efficient cause of the generation of a new living creature.¹⁹

B. But we could and should consider that the answer might be: the soul is the first *entelecheia* of the subtle, fine-material *physikon sôma* which as *organon* (instrument) of the soul is active and present throughout the gross-material, visible body of man, animal and plant. This instrumental body could be *pneuma* (or its analogon in bloodless animals and in plants) or 'natural fire' or 'vital heat'.

It is my intention to indicate as clearly as possible all the problems which arise from interpretation (A); and I want to establish a firm basis for my new interpretation (B). The problems of the standard interpretation of Aristotle's philosophy are so great and so peculiar that an attempt must be made to produce an alternative which does justice to the information from the classical tradition. I start with a survey of some significant contributions to the modern scholarly debate on this subject.²⁰

¹⁹ Other matters which are important for Aristotle in his biological works, but to which the standard theory of the hylomorphic interpretation cannot supply a satisfactory answer, are: how is it possible that the soul of a fly or flea first produces the body equipped with organs of a larva before a new fly or flea can be generated from it? And how is it possible that an entire new plant develops from a small cutting? But above all: how can 'spontaneous generation' be explained on the basis of this theory? For a brief survey of all the objections to the traditional explanation of Aristotle's psychology, cf. chapter 17 below.

²⁰ Cf. *Aristotele, L'anima*, trad., introd. e comm. di G. Movia (Napoli 1979) 16-40 and A.P. Bos, 'Aristotle's psychology: diagnosis of the need for a fundamental reinterpretation', *Amer. Cathol. Philos. Quart.* 73 (1999) 309-331.

CHAPTER TWO

THE MODERN DEBATE ON ARISTOTLE'S PSYCHOLOGY

W. Jaeger (1923)

It was the great German scholar W. Jaeger¹ who brought about the most important change of paradigm in modern Aristotelian studies with his famous book about the history of Aristotle's development.² Instead of talking about Aristotle's philosophy as a static whole, in the way that the scholastics did, Jaeger applies the principle of organic development, of which he regards Aristotle as the discoverer, to the Stagirite's own philosophy.³ Of course, the proposition that a philosopher undergoes a development during forty-five years of activity is in itself highly plausible. However, there is always a danger that problems encountered by an interpreter lead to conclusions about the non-compatibility of certain theories and that it is then assumed that the ancient author in question also felt this incompatibility and did not hold such theories *simultaneously*.⁴ The obvious solution is to assume that at some stage the ancient author abandoned the theory which he initially held and replaced it by one which he considered superior. The degree to which the application of the development

¹ For a biographical survey, see W.M. Calder III, *Classical Scholarship* (New York 1990) 211-225.

² W. Jaeger, *Aristoteles. Grundlegung einer Geschichte seiner Entwicklung* (Berlin 1923). A French translation was published as late as 1997: *Aristote. Fondements pour une histoire de son évolution*, traduit et présenté par O. Sedeyn (Combas 1997). For the sake of references I will use the English translation *Aristotle. Fundamentals of the history of his development* transl. by R. Robinson (Oxford 1934; ²1948; repr. 1962). T. Case, 'Aristotle', *The Encyclopaedia Britannica*, vol II, 11th edition (Cambridge 1910) 501-522 had also hypothesized a development in Aristotle, but found little response.

³ W. Jaeger, *Aristotle* 3-7.

⁴ Cf. T.J. Tracy, *Physiological theory and the doctrine of the mean in Plato and Aristotle* (The Hague/Chicago 1969) 348: 'Whether (1) the commentator finds two notions irreconcilable, and whether (2) *Aristotle* regards them as such,—these appear to me to be separate problems'. Tracy observes that 'Aristotle does speak of the soul in the *same* context or work as *both* the form of the body *and* as centered in a particular organ, the heart, governing the life processes through the innate heat'. And he admits that he, too, has difficulty in understanding 'how he reconciled these notions' (353)

hypothesis is correct always depends here on the degree to which the interpretation of the ancient author's text holds good.

Although Jaeger's genetic approach seemed totally convincing for forty years⁵, was applied in a large number of studies of Aristotle's oeuvre, and helped significantly to deepen our knowledge of the philosopher's work, it is now quite generally rejected as a hypothesis⁶. In 1966 I. Düring declared:

'Die Geschichte des Aristotelismus hat uns daran gewöhnt, an die Existenz einer konsequent durchgeführten aristotelischen Philosophie als Gegenposition zur Philosophie Platons zu glauben. Neue Interpreten wollen uns dazu überreden, dass man die offenkundigen Widersprüche im Denken des Aristoteles durch die Annahme erklären könne, er habe sich von einer "idealistischen" zu einer "realistischen" Entwicklungsstufe bewegt; anders gewendet: er habe sich am Anfang seiner philosophischen Wirksamkeit für die theoretische "Philosophie der ersten Dinge" (=Metaphysik) interessiert, um sich in späteren Jahren empirischer Forschung in Biologie und Zoologie, der Archivforschung u. dgl. zuzuwenden. Diese Konstruktion seines Werdeganges ist m. E. falsch'.⁷

In 1983 H. Flashar observed that there is a broad consensus nowadays 'dass die Ergebnisse Jaegers im Gesamtkonzept wie in vielen Einzelheiten als verfehlt anzusehen sind'.⁸ In 1987 O. Gigon based his

⁵ Cf. G.R. Morrow, *A.G.Ph.* 50 (1968) 283: 'This picture has been so widely accepted in the intervening years that it has itself become something of a dogma that tends to prevent further examination of the evidence'.

⁶ An important critique of parts of Jaeger's view can be found in A. Mansion, 'La genèse de l'oeuvre d'Aristote d'après les travaux récents', *Rev. néo-scolast. de la philos.* 29 (1927) 307-341; 423-466. Nevertheless, the tenor of his discussion is highly positive: 'son vrai mérite est d'avoir tenté, pour la première fois, d'en déterminer avec précision les étapes (of Aristotle's development—APB) et d'y avoir réussi d'ailleurs dans une large mesure' (318). However, it is very interesting that, according to Mansion, this is no reason to think differently about 'le système d'Aristote' (464), because Jaeger's innovation consists mainly in his revaluation of Aristotle's early works. Cf. also W.D. Ross, 'The development of Aristotle's thought', *Proceedings of the British Academy* 43 (1957) 63-78; reprinted in I. Düring; G.E.L. Owen (eds), *Aristotle and Plato in the mid-fourth century* (Göteborg 1960) 1-17.

⁷ I. Düring, *Aristoteles. Darstellung und Interpretation seines Denkens* (Heidelberg 1966) vii-viii. In passing this quotation also shows that Jaeger used A. Comte's scheme for his conception of development in which a development was postulated from mythical via theological to 'positive' thought. A. Mansion (1927) 334 already called this schema 'too simple to be true'. Cf. also A.P. Bos, *Cosmic and meta-cosmic theology in Aristotle's lost dialogues* (Leiden 1989) 97-101; Italian ed. 188-194.

⁸ H. Flashar, *Die Philosophie der Antike*, vol. 3 (Basel/Stuttgart 1983) 177. C.H. Kahn, *A.G.Ph.* 48 (1966) 51 noted: 'the developmental hypothesis seems to me more often to mask than reveal the true train of Aristotle's thought as reflected in the text'. Cf. C. Witt, 'The evolution of developmental interpretations of Aristotle', W. Wians (ed.) *Aristotle's philosophical development. Problems and prospects* (Lanham

interpretation of the fragments of Aristotle's lost works on the assumption 'dass das Oeuvre des Aristoteles letzten Endes eine Einheit gewesen ist'.⁹ Gigon thus considers it proper to use fragments from the extant work to illustrate information derived from the lost work and vice versa. But a truly comprehensive alternative to W. Jaeger's book, namely a study which deals with the problems in the tradition which he pointed out, has never been realized. The only scholar who pursued an entirely different approach was J. Zürcher¹⁰. But his proposition that half of the Aristotelian Corpus as we know it was the work of Theophrastus, Aristotle's great disciple, has not received much support.

Though parts of Jaeger's book were highly criticized, some scholars held on to the hypothesis of a development in Aristotle. As late as 1973 A.H. Chroust defended as the main achievements owed to Jaeger the propositions: '(1) the early works of Aristotle are strikingly Platonic; and (2) the Platonism of the early writings in itself is an indispensable criterion in the identification, interpretation, authentication and dating of these early works'.¹¹ In a study from 1989 J. Rist still described Aristotle's philosophy in terms of growth and development, including changes of position.¹²

Jaeger framed his genetic approach to Aristotle's oeuvre in psychological speculations on how the young Aristotle must have been spell-bound by Plato for many years and how his own, typical manner of philosophizing emerged only when the enthralling influence of his teacher came to an end with Plato's death in 347 BC.¹³ The fact that

1996) 67-82, with 71-74 on W. Jaeger.

⁹ O. Gigon, *Aristotelis Opera*, vol. III (Berlin 1987) 230. See his earlier 'Einleitung' in *Aristoteles, Von der Seele* (Zürich 1950) 218: 'Dass aber derselbe Aristoteles Doktrinen von zentraler philosophischer Bedeutung, wie diejenige von der Unsterblichkeit der Seele in seiner Jugend mit pathetischem Ernst verfochten und in seinem Alter mit subtilen Reflexionen verworfen hätte, halte ich für undenkbar. Dergleichen gibt es in moderner Philosophie und Literatur, nicht aber in der Antike'. Gigon's position is shared by E. Berti, *La filosofia del <<primo>> Aristotele* (new edition—Milano 1997) 13-14.

¹⁰ J. Zürcher, *Aristoteles' Werk und Geist* (Paderborn 1952).

¹¹ A.H. Chroust, *Aristotle. New light on his life and some of his lost works* vol. II (London 1973) 235.

¹² J.M. Rist, *The mind of Aristotle. A study in philosophical growth* (Toronto 1989). As a result of the entire discussion since Jaeger, Rist 166 sees two phases of development in Aristotle: (a) an almost Platonic phase and (b) the mature Aristotelian phase. On the problems of Jaeger's developmental hypothesis, see also W. Wians (ed.), *Aristotle's philosophical development*.

¹³ W. Jaeger, *Aristotle* 12f.

he interpreted the fragments of the dialogue *Eudemus* as entirely Platonic, even to the extent that Aristotle had endorsed the theory of Ideas and had regarded the human soul as 'an Idea or something of the nature of an Idea',¹⁴ was probably a compelling reason for Jaeger to assume a radical development of which the treatise *De anima* formed the end-point¹⁵. And for many readers of Jaeger's book this also seemed a compelling reason to accept his principle of development.

According to Jaeger, Aristotle in the *Eudemus* is still 'completely dependent on Plato in metaphysics'.¹⁶ By contrast, his later doctrine is: 'The soul is substance only as being "the entelechy of a natural body potentially possessing life". It is not separable from the body, and therefore not immortal; but in connexion with the body it is the formative principle of the organism.'¹⁷

An intriguing page is the one which concludes Jaeger's discussion of Aristotle's 'Platonist' period and the *Protrepticus*. It is an emotional call to recognize that Aristotle did defend a dualistic psychology:

The young Aristotle had really felt the pains of man's dualistic existence, as Plato and the Orphics had felt them before him. It is an absolutely intolerable and blasphemous notion that this Platonic imagery is nothing but a conventional mask, concealing a spirit in reality playful and easy-going. We must simply relearn our history. The fact is that there was a time when these ideas seemed to Aristotle an inseparable part of his own ego.¹⁸

I called this text intriguing. For Jaeger's book succeeded in helping us to gain a different view of the great importance of Aristotle's lost works. But at the same time this book obstructed the truly correct

¹⁴ W. Jaeger, *Aristotle* 45-46.

¹⁵ For T. Case (1910) 507B, too, this point was the most evident proof of a development in Aristotle: 'To put one extreme case, about the soul he could think at first in the *Eudemus* like Plato that it is imprisoned in the body, and long afterwards in the *De anima* like himself that it is the immaterial essence of the material bodily organism'.

¹⁶ W. Jaeger, *Aristotle* 44. For this, Jaeger has to postulate that the reports in Proclus and Plutarch on the criticism in Aristotle's dialogues of Plato's theory of Ideas do not refer to the *Eudemus* but only to the work *De philosophia* (33-36).

¹⁷ W. Jaeger, *Aristotle* 45 with reference to Arist. *Anim.* II 1, 412a19ff. The English translation wrongly has 'formulative principle' here. The German original reads on p. 43: 'das gestaltende Formprinzip'.

¹⁸ W. Jaeger, *Aristotle* 100. Jaeger devotes remarkably few pages in his book to the discussion of the treatise *De anima*, 331-333. Moreover, he describes the doctrine of intellect in *Anim.* III 4-5 as 'peculiarly Platonic and not very scientific'. The doctrine of soul, in which the soul is tied to physical reality, was supposedly tagged onto it later (332).

historical view of the relationship of the lost work with the surviving Corpus. If my hypothesis of the need for an alternative interpretation of the psychology of *De anima* cuts ice, there is reason 'to relearn our history' after Jaeger as well. For in that case we will have to correct our view of *De anima* and learn that, like the *Eudemus* and the *Protrepticus*, it held an anthropological dualism in which the intellect is completely free of materiality, but the soul, though bound to a *sôma physikon organikon*, can be 'freed' of the gross-material body and ultimately be dissolved into the ethereal sphere of the astral celestial beings. We will then have to see that in the Aristotelian Corpus, too, Aristotle saw the 'bondage' of human nature and its lack of real knowledge of the Truth as the tragedy of earthly human existence which can be overcome only through the liberating sciences, the highest of which is the truly free science which makes man 'similar to God'.¹⁹

F.J.C.J. Nuyens (1939)

The contribution of the Dutch scholar F. Nuyens²⁰ meant an important step forwards compared with W. Jaeger. He presented his work as a more precise formulation and refinement of Jaeger's study. He, too, started from the hypothesis of a development in Aristotle's thinking from a position which showed a great deal of affinity with Plato's philosophy to positions which increasingly bore his own stamp.

The important new feature of Nuyens's contribution was that he focused on one theme, that of Aristotle's psychological views, and investigated this for all of Aristotle's works. In close connection with this he also dealt with all the information about Aristotle's discussions of the intellect and its activity.

1. Nuyens takes his starting-point in the dialogue *Eudemus*. There he finds 'the Platonic view of the soul. The soul is regarded as an independent entity, its connection with the body is a temporary and enforced union, its separation from the body is a liberation.'²¹

¹⁹ Cf. Arist. *Metaph.* A 2, 982b24-983a11 and α 1, 993b9-11.

²⁰ F.J.C.J. Nuyens, *Ontwikkelingsmomenten in de zielkunde van Aristoteles. Een historisch-philosophische studie* (Nijmegen/Utrecht 1939). A French edition of this work was published under the title *L'évolution de la psychologie d'Aristote* par F. Nuyens; Préface de A. Mansion (Louvain 1948; repr. 1973). An extensive review by A. Mansion was included in *Tijdschr. v. Filos.* 2 (1940) 412-426.

²¹ F. Nuyens (1939) 41. Fr. ed. 48.

According to Nuyens, this view of the soul is totally opposite to that of *De anima*. 'Indeed, it is hard to conceive of a greater contrast in the relation of soul and body than that between the *Eudemus* and *De anima*.'²²

2. In the works following the *Eudemus* Nuyens observes a transitional phase. The view of body and soul changes in the sense that body and soul work together, and that this collaboration is a 'natural' one. However, in this view the soul does not immediately lose all its independence. It is the 'vital power which—connected with a certain organ—resides in the body and causes the body to live, it is the ruler that holds sway over the body, it is the user, the body its instrument.'²³ Nuyens calls this conception a 'vitalistic' or 'mechanistic instrumentalism'.

Nuyens based the characterization of this transitional phase as 'instrumentalism' on a passage in Iamblichus' *Protrepticus*, in which the soul is said to govern and use the body, and the body is described as the 'instrument' (*organon*) of the soul. Nuyens follows I. Bywater and W. Jaeger in assuming that Iamblichus' text was almost literally adopted from Aristotle's lost work the *Protrepticus*.²⁴ Initially, for instance in the *Protrepticus*, Aristotle argued this new view simultaneously with the dualistic view mentioned before²⁵.

3. *De anima* forms the end-point of the development. Here the soul is 'the entelechy or essential form of the living creature, it is so intimately connected with the body as the form with the matter, it is not somewhere in the body, but the entire body is its substrate, it becomes and perishes with the body.'²⁶

In his Preface to the French edition A. Mansion notes that, for the first time since Jaeger's brilliant but slipshod study, the work of

²² F. Nuyens (1939) 41. Fr. ed. 48.

²³ F. Nuyens (1939) 49. Fr. ed. 57.

²⁴ F. Nuyens (1939) 84; Fr. ed. 94. The text of Iamblichus reads: ἔτι τοίνυν τὸ μὲν ἐστὶ ψυχὴ τῶν ἐν ἡμῖν τὸ δὲ σῶμα, καὶ τὸ μὲν ἄρχει τὸ δὲ ἄρχεται, καὶ τὸ μὲν χρῆται τὸ δ' ὑποκείται ὡς ὄργανον = Arist. *Protr.* fr. 7 Ross; 73 Gigon.

²⁵ F. Nuyens (1939) 49; 85; Fr. ed. 57; 95. Cf. J.D. Monan, 'La connaissance morale dans le *Protreptique* d'Aristote', *R.Ph.L.* 58 (1960) 185-219, p. 200; I. Düring, *Aristotle's Protrepticus. An attempt at reconstruction* (Göteborg 1961) 236 and chap. 12 below.

²⁶ F. Nuyens (1939) 50; Fr. ed. 58. T. Irwin, *Aristotle's first principles* (Oxford 1988) 584 n. 33 also believes that the role of the heart in Aristotle's work shows the need to accept a development in Aristotle's thought. This late dating of Aristotle's so-called 'hylomorphism' has remarkable consequences for the appraisal of *Nic. Eth.*, in *L'Éthique à Nicomaque*, introd., trad. et comm. par R.A. Gauthier; J.-Y. Jolif, vol. I (Louvain/Paris 1958) 1* and 35*-36*.

Nuyens represents an important step forwards in the inquiry into the development of Aristotle's philosophy. Mansion, who was himself a foremost authority on Aristotle's work, also expresses his regret that Nuyens never had the opportunity to revise his 1939 book. Mansion points out that, since that date, studies have appeared which argue that in his great work *On philosophy* Aristotle supported a psychology which was totally materialistic, inasmuch as he identified the soul with ether or the '*quinta essentia*'.²⁷ Though Mansion does not believe that this view can rightly be attributed to Aristotle, he had rather seen an explicit treatment of the problem by Nuyens.²⁸

Nuyens's point of departure in writing his study was a justified criticism of the retrospective method of many Aristotle experts in his day. Their method was to judge all the information about psychology which could be found in the Aristotelian Corpus or in the indirect tradition regarding Aristotle in terms of the conception which was at hand in *De anima*. By contrast, Nuyens opted for a prospective or genetic approach: on the basis of the information about acknowledged early views of Aristotle, Nuyens tried to understand how Aristotle finally arrived at the position of *De anima*.²⁹ Though this choice of position was very useful and defensible from a methodological point of view, Nuyens's approach suffered from another form of retrospection: because he considered the data from the *Eudemus* in isolation from the view of *De anima*, he saw the position of the *Eudemus* entirely in the light of Plato's dualism, despite the possibility that Aristotle's idea of a superterrestrial destination of the soul was not wholly identical with Plato's view.³⁰ Nuyens's interpretation of the *Eudemus* may have been too much retrospectively focused on Plato's psychology.

²⁷ A. Mansion, in F. Nuyens (1948) xii. Equally positive was W.D. Ross, *Aristotle, Parva naturalia* (Oxford 1955) 3-18. G. Verbeke, *R.Ph.L.* 46 (1948) 341 called the book 'depuis l'*Aristote* de M. Jaeger la contribution la plus importante à notre connaissance de la pensée aristotélicienne', but at the same time he called for more attention to Cicero's testimony about a 'fifth essence' as the substance of human souls according to Aristotle.

²⁸ A. Mansion, in F. Nuyens (1948) xiii. In passing we can observe here the irony of history, viz. that Nuyens accepts information from Iamblichus as unimpeachably Aristotelian although it merely represents Iamblichus' interpretation of Aristotle's psychology, (as we shall argue in chap. 12 below) whereas he disregards Cicero's explicit attributions to Aristotle of a doctrine which links the soul to a very special body, though these could have provided the key to a solution of the problem.

²⁹ F. Nuyens (1939) 38-43. Fr. ed. 44-51.

³⁰ Cf. F. Nuyens (1939) 129. Fr. ed. 143.

On the other hand, Nuyens assigns a relatively early date to the passages in the writings of the *Organon* and the *Physics* which talk about an independence of the soul, because he is convinced that Aristotle's position in *De anima* no longer admits of the soul's independence and must represent the end of Aristotle's development.³¹ The validity of Nuyens's chronology here also depends strongly on the validity of his interpretation of *De anima*.

Because the assumption of the incompatibility of the conceptions of the *Eudemus* and of *De anima* forms the basis of both Nuyens's and Jaeger's studies on Aristotle's development, rejection of this basis cancels their results for the periodization and chronology of Aristotle's writings.

G. Verbeke (1945)

The great study on the notion of *pneuma* from the Stoa onwards by the Belgian scholar G. Verbeke³² is striking evidence of the total failure to understand Aristotle's doctrine of innate *pneuma* in the time in which Verbeke wrote his study. Though Verbeke's concern was to write a study on the 'spiritualization' of the notion of *pneuma* in the Hellenistic period, he believed he could ignore all the pneumatologies before the Stoa³³ for a simple reason: before the Stoa there is no development towards a spiritualization in this doctrine.³⁴ In this way Verbeke made it impossible for himself to reach a true understanding of the ambivalence of the concept of *pneuma*. For he failed to recognize that the *pneuma* theory of the Stoics is incomprehensible without a thorough knowledge of Aristotle's doctrine of vital heat and innate *pneuma* as 'instruments' (*organa*) of the (incorporeal) soul and as psycho-physical entities³⁵. Verbeke falls victim here to

³¹ F. Nuyens (1939) 97-111. Fr. ed. 106-123.

³² G. Verbeke, *L'évolution de la doctrine du Pneuma du Stoïcisme à St. Augustin. Étude philosophique* (Paris/Louvain 1945).

³³ G. Verbeke (1945) 12 mentions Aristotle only as the philosopher from whom Zeno of Citium gained his knowledge of the medical doctrine of *pneuma*. Cf. [Aristotele,] *De spiritu*, a cura di A. Roselli (Pisa 1992) 9 n. 1.

³⁴ G. Verbeke (1945) 7. In his article 'Doctrine du *pneuma* et entéléchisme chez Aristote', G. E. R. Lloyd; G. E. L. Owen (eds), *Aristotle on mind and the senses* (Cambridge 1978) 191-214 Verbeke rectifies to some extent the omission of his 1945 study. He argues there that Aristotle's doctrine of *pneuma* forms part of a philosophy which recognizes a spiritual dimension in man (207).

³⁵ Nevertheless, Verbeke (1945) 20 had sharply recognized: 'Lorsque Zénon déclare que l'âme humaine est un souffle, il se distingue nettement d'Aristote, puis-

Nuyens's developmental approach to Aristotle's psychology. In Verbeke's view, it was only in the theory of *De anima* II 1 that Aristotle found a truly satisfactory solution to the problem of the relation between body and soul³⁶, and the theory of *pneuma* no longer played a significant role here.

Likewise the fact that Philo of Alexandria and the Apologists and then the entire Christian theology could link up so closely with the Greek philosophical doctrine of *pneuma* can only be properly understood against the background of Aristotle's view of the 'innate *pneuma*' in mortal living creatures. On the one hand this *pneuma* plays a mediatory role between the incorporeal soul as entelechy and the gross-material body, and on the other hand it must be explained in its particularity by its connection with the divine element, ether, which is the substance of the astral celestial beings.

In my opinion there is an urgent need for a new and comprehensive inquiry into the concept of *pneuma* in the philosophical tradition from Aristotle onwards and, next, in the early Christian and Gnostic traditions that strongly depend on it.

I. Block (1961)

In an article entitled 'The order of Aristotle's psychological writings'³⁷ Irving Block criticizes the view of Sir David Ross, who followed the same line of reasoning as F. Nuyens. Ross sharply distinguished the psychology of *De anima* from that of the *Parva naturalia*. In the latter collection of small treatises he noted that the psychic functions were connected with a particular part of the body, namely the heart. But in *De anima*, according to Ross, Aristotle adopted a different position, which entailed that the soul was the entelechy or form of the entire body. While Ross characterizes the view of the *Parva naturalia* as a 'theory of two substances', *De anima* can only be said to contain a doctrine of a single substance. Because a 'doctrine of two substances' seems closer to Plato's view, Ross assumes that Aristotle held this theory at an earlier stage than the conception of *De anima* (51)³⁸.

que celui-ci considérait le *pneuma* comme le premier instrument de l'âme, sans l'identifier avec elle'.

³⁶ G. Verbeke (1945) 26-27.

³⁷ *Am. J. of Phil.* 82 (1961) 50-77.

³⁸ W.D. Ross, *Aristotle, Parva Naturalia*, a revised text with introd. and comm. (Oxford 1955) 12 claimed: 'Indeed the conception of soul put forward in *De anim.*

By contrast, Block claims: (1) that the view of *De anima* is not incompatible with that of the *Parva naturalia* and (2) that Aristotle did not regard these two views as incompatible (52). He then argues (3) that *De anima* should be dated earlier than the *Parva naturalia*.

With proposition (1) Block connects the view that the theory of *De anima* is a 'doctrine of one substance'. But he believes that this is the theory of the biological writings as well (54). Block underpins his argument with the proposition: 'the attribution of an activity to a complex body as a whole is not at odds with the claim that a part of this body is in a more direct sense the cause of this activity than another part' (53).

Why does Aristotle apparently persist in using a different terminology in different works, which implies a difference in perspective? Block solves this problem by remarking that the *Parva naturalia* do not deal with the theme of the soul in general (58) and that Aristotle in *De anima* does not talk about the special place of the heart because he had not yet developed this theme in the *De anima* (59).

The contention that *De anima* must have been written before the *Parva naturalia* is based by Block in the second part of his article on the development which he observes in Aristotle's concept of the *sensus communis* (62ff.). In the *Parva naturalia* the *sensus communis* is in effect the only perceptive function. In *De anima*, according to Block, the separate perceptive functions are all independent functions (67). And each requires the external organ of perception which is appropriate to it alone. 'Eyesight is a function solely of the eye and hearing of the ear... Therefore, when the proper stimulating motions reach the eye and no farther, we see, and when they reach the ear and no farther, we hear' (63-64). Block, however, finds in the *Parva naturalia* one perceptive function which is differentiated according to the various kinds of perception. In the *Parva naturalia* the *sensus communis* is in effect the only perceptive function (64; 67). Block believes that a drastic change must have taken place in Aristotle's thought on

2, the conception of it as the ἐντελέχεια, the principle of organization, of the whole body, precludes its being located in any one part of the body'. See also F. Nuyens (1948) 257. R.A. Gauthier, J.Y. Jolif, *Aristote, L'Ethique à Nicomaque*, 2nd ed. (Louvain 1970) dl. I 58 concludes after describing the presupposed hylomorphism of *De anima*: 'Il suit immédiatement de là que l'âme n'est plus localisée dans une partie de corps—le coeur—comme elle l'était dans la période précédente, mais est présente au corps tout entier ...'. The above authors did not sufficiently realize that the position attributed by them to *De anima* requires first a solution to the problem of how a non-corporeal entity (the soul; but also God) could be omnipresent in a material entity. Aristotle himself did not yet develop that concept.

perception (67-68). In this development the position of the *Parva naturalia* must be the later one. For this position is more complex and philosophically more adequate (68 ff.)³⁹

P. Moraux (1963)

The Belgian authority on Aristotle P. Moraux published an important study in 1963 on the notion of '*Quinta essentia*'.⁴⁰ His severe criticism of the reports in Cicero about a *quinta essentia* or *quinta natura* as the matter of which human souls are made has had a rather strong effect. In the view of Moraux, the doctrine of a special, divine element had a merely cosmological function in Aristotle. Shortly after Aristotle philosophers also assumed a soul-substance which was identical with the celestial element. But Moraux does not think it very likely that such a 'materialistic psychology' can be attributed to Aristotle (col. 1172). He does observe that the *quinta essentia* played a role in the later tradition as a substance which is intermediate between material and immaterial reality (col. 1173).

For Moraux, Aristotle's doctrine of ether is that of *De caelo*. In his view, this treatise is unmistakably authentic and in it a special, divine element as a specifically Aristotelian doctrine plays an important role. In Aristotle's lost works, in particular in *De philosophia* the same doctrine is held but only in a cosmological setting (col. 1196). But the problems raised by this doctrine in *De caelo*, suggest to Moraux that Aristotle never succeeded in making it an integral part of his philosophy (col. 1198). For in the cosmological theory it is already difficult to determine whether the 'first element' should be approached in a purely physical way or as 'animate' or in a psycho-physical sense.

³⁹ P. Gohlke (1947) 11 had also asserted that, when Aristotle wrote *De anima*, he had not yet fully elaborated the *Parva naturalia*. Cf. also W.F.R. Hardie, 'Aristotle's treatment of the relation between the soul and the body', *Philos. Quart.* 14 (1964) 53-72. The importance of I. Block's contribution is strongly underlined by C.H. Kahn, *A.G.Ph.* 48 (1966) 50-64, though Kahn refuses to recognize a difference in conception between the two works, because he is not convinced that the doctrine of the *sensus communis* is absent in *De anima*. See also S.R.L. Clark, *Aristotle's man. Speculations upon aristotelian anthropology* (Oxford 1975) 69-76. In chap. 5 I will argue that Block's hypothesis of an opposition between *De anima* and the *Parva naturalia* is based on an incorrect interpretation of τὸ ὅλον σῶμα αἰσθητικόν in *Anim.* II 1, 412b25. See also A.P. Bos, 'Het gehele lichaam dat waarnemingsvermogen bezit (Arist. *De anima* II 1, 412b24-25)', *A.N.T.W.* 91 (1999) 112-128.

⁴⁰ *P.W.-R.E.* 47 Halbbd (Stuttgart 1963) cols. 1171-1263.

Indeed, Moraux talks about an 'antinomy' between the first and the second book of *De caelo* (col. 1200).

Moreover, there is the problem whether the doctrine of the special, fifth element was always combined by Aristotle with his theory of the Prime Unmoved Mover. Some modern scholars have interpreted the theory of the transcendent Mover as a later structure superimposed on a cosmology in which the 'first element' was initially regarded as the highest divine entity (cols 1200-1203).

In col. 1205 Moraux draws attention to the famous text from *De generatione animalium* II 3, which relates the *dynamis* of every soul to 'a different and more divine body than that of the so-called elements'.⁴¹ Moraux comments that Aristotle clearly never identifies the *pneuma* with the soul, but regards it as an instrument and material vehicle. Moraux also notes that an analogy between the 'first element' and the vital *pneuma* might be possible, but not an essential affinity: the first element cannot leave its heavenly location and possesses neither heat nor cold (col. 1206).

From col. 1209 onwards Moraux deals with the texts which have been linked to Aristotle's lost writings. These seem to attribute to Aristotle an entirely different doctrine of *quinta essentia* from the treatises of the Corpus, namely one in which it is identified with the substance of the human soul or the mind. This is in particular Cicero's attestation.

Moraux accepts Cicero's testimony in *De natura deorum* I 13, 33, and also the identification of the *caeli ardor* with ether attributed there to *De philosophia* (col. 1210). But for the rest he strongly questions Cicero's testimony, which has led to great controversies among modern authors (col. 1219). An argument which Moraux adduces against a materialistic or hylozoistic psychology of Aristotle in *De philosophia* is the fact that the *Eudemus* seems to contradict this (col. 1220). Similarly, Cicero's reference to the soul as *entelecheia* in Aristotle's psychology could be based on a confusion with the term *entelecheia* (col. 1221).

Finally, an early materialist psychology of Aristotle cannot be placed in an evolution of Aristotle's psychology as described by F. Nuyens (cols 1224-1226).

⁴¹ This passage will be discussed in detail in chap. 8.

C. Lefèvre (1972)

The Belgian author C. Lefèvre, who taught for a long time in Lille, France, also published an important contribution to the discussion on Aristotle's psychology, which, however, failed to receive the attention it deserved⁴². It was the product of more than ten years of study induced by a request to carry out a total revision of the work of F. Nuyens, which had appeared in French in 1948. This plan was dropped by Lefèvre because he concluded that one of the cornerstones of Nuyens's study was untenable: Lefèvre could not endorse a separate phase of 'instrumentalist vitalism'. In his own study on the subject of Nuyens's book he argues extensively and convincingly that the view which Nuyens calls 'instrumentalist' was elaborated by Aristotle himself in combination with his hylomorphism and that these two facets of Aristotelian psychology occurred side by side in a number of Aristotle's works in a way which made it impossible to distinguish various phases and conceptions.

Nevertheless, against Düring in particular, Lefèvre continues to make out a strong case for the hypothesis of an Aristotelian development in the field of psychology. In his view, the fragments of Aristotle's lost works cannot be aligned with the psychology of the writings from the Corpus. For these lost works Lefèvre, too, accepts a dualistic view, with strongly Platonic features. But he did not deal separately with the fragments in his 1972 book, though he devoted an important and extensive article to them in 1971.⁴³ In this article he disputes Moraux's view (1963) that Cicero's testimony, in which a theory is attributed to Aristotle that explained the human mind by means of a *quinta natura* or the fifth element, ether, should be regarded as unreliable⁴⁴.

But, as I said, in his 1972 book Lefèvre does not attempt to deal with Aristotle's entire legacy (presumably because his supervisor, Prof. S. Mansion, could not accept his views on the meaning of the

⁴² C. Lefèvre, *Sur l'évolution d'Aristote en psychologie* (Louvain 1972).

⁴³ C. Lefèvre, "Quinta natura" et psychologie aristotélicienne', *R.Ph.L.* 69 (1971) 5-43. For a highly informative survey of the modern debate on Aristotle's lost works during the last thirty-five years, cf. the 'Introduzione' by E. Berti, *La filosofia del <<primo>> Aristotele* (new edition, Milano 1997) 9-55.

⁴⁴ J. Pépin, 'L'interprétation du *De philosophia* d'Aristote d'après quelques travaux récents', *R.E.G.* 77 (1964) 445-488, pp. 473-487 had also rejected the conclusions of P. Moraux and concluded on the strength of Cicero's reports that Aristotle must have championed a form of hylozoistic psychology in *Philos.*

fragments)⁴⁵. He does blame Düring, who refused to recognize an antithesis between the *Eudemus* and *De anima*, for being inconsistent in this (*op. cit.* 21, n. 37), but also for not bothering to demonstrate how hylomorphism can be reconciled with statements by Aristotle which situate the soul in a particular organ of the human body (21).

As his first main theme Lefèvre chooses the work *De generatione animalium*, in order to examine whether instrumentalism and hylomorphism can be reconciled (31f.). First he shows at length that the work completely follows and respects the framework of hylomorphism (31-106).⁴⁶ As a consequence Lefèvre goes on to distinguish two types of 'instrumentalist psychology' in Aristotle: (a) the type distinguished by Nuyens, in which instrumentalism was combined with a dualism of soul and body; and (b) the type in which instrumentalism was combined by Aristotle with hylomorphism (110).

After his inquiry into *De generatione animalium* the author proceeds to discuss *Metaphysics Z*. Block and Hardie had designated chap. 10 of this work as a text in which the soul is located in a certain part of the body (112-119). Lefèvre's conclusion is that *Metaphysics Z* and *De generatione animalium* clarify each other and that both works combine hylomorphism and instrumentalism (129).

But Lefèvre's final and crowning argument is that in *De anima II*, too, there are at least three passages which likewise seem to suggest an instrumentalism in Aristotle's psychology (130-148).

Lefèvre then focuses his attention on the treatise *De motu animalium*, which for Nuyens was the example of Aristotle's instrumentalistic intermediate phase. The author admits that at first sight the characteristic features of the hylomorphistic view seem to be lacking (163). But he then discovers so many elements from the *Metaphysics* and *De anima* which are presupposed in *De motu animalium* that he radically rejects the idea that *De motu animalium* represents an earlier phase (172): the same psychological or psycho-physical theory is advanced in all three writings (169; 173).

In an inquiry into the *Nicomachean Ethics* and the *Politics*, which Nuyens also classified in the instrumentalist phase, Lefèvre concludes

⁴⁵ Cf. C. Lefèvre (1972) ix, n. 2. Ms. S. Mansion, like her uncle A. Mansion and P. Moraux before her, rejected any suggestion that Aristotle went through a 'phase d'allure matérialiste'.

⁴⁶ Cf. Lefèvre (1972) 106: 'dans le *De gener. anim.* ... Aristote n'a pu concevoir que l'instrumentisme fût, *per se*, en contradiction avec l'hylémorphisme'.

that it supports such a clearly 'earthly' humanism that he believes that the hylomorphism of *De anima* has already been reached (217). Whereas Lefèvre discerns a great difference between (a) the *Nicomachean Ethics* and the *Politics* and (b) the fragments of Aristotle's lost writings (215; 282), he concludes that there are insufficient grounds for assuming doctrinal differences within the works of the Corpus mentioned.

We can observe that Lefèvre has done a great deal of preliminary work towards achieving the only necessary breakthrough in the interpretation of Aristotle's psychology. But he has not yet been able to get away from the interpretation of *De anima* as a specimen of hylomorphic psychology. Had he surmised that the *sôma organikon* in *De anima* II 1 cannot be the gross-material body but rather is an 'instrumental *sôma*', he could have developed the hypothesis that there is not even an adequate foundation for an evolution from Aristotle's position in his lost works to a different one in the Corpus.

M.C. Nussbaum (1978)

In her commentary on *De motu animalium* M.C. Nussbaum⁴⁷ no longer recognizes the authority of Nuyens's theories. She observes that scholars have regularly drawn a contrast between *De motu animalium* and *De anima*. This leaves them with the choice of either cancelling the opposition by hypothesizing a development or taking a different view of the matter. Ms. Nussbaum opts for the position that there is no incompatibility between *De anima* and *De motu animalium* (10), but a difference in the sense that *De motu animalium* is a (later) refinement of the conception of *De anima* which Aristotle was developing in his last works (12). She thus gives *De motu animalium* a totally different place (namely at the end of Aristotle's career) than the one surmised by Nuyens (viz. in the transitional years).

In her third interpretive essay, entitled 'The *sumphuton pneuma* and the *De motu animalium*'s account of soul and body' (143-164) the author tries to shed light on the issue from all angles. But she immediately calls it 'one of the thorniest exegetical problems', the obscurity of which she can only explain by assuming that Aristotle did

⁴⁷ M.C. Nussbaum, *Aristotle's De motu animalium*. Text with translation, comm. and interpretive essays (Princeton 1978; repr. with corrections, 1985).

not have the opportunity to elaborate it in detail (143f). What she wants to show is that *De motu animalium* is generally based on the same hylomorphism which she reads in *De anima*. She believes that, with regard to perceptive processes, *De motu animalium* argues completely in line with *De anima* that perception requires a certain material condition. Only for the motivation of actions of human beings and animals by 'desire' (*orexis*) did Aristotle add an extra theory, namely that of the *symphyton pneuma*. But he did not succeed in integrally connecting this theory with the rest of the argument in *De motu animalium*. And she (rightly) observes that there are important questions about the difference between *pneuma* and the 'natural body' air.

Ms Nussbaum is not acquainted with Lefèvre's important study from 1972⁴⁸. He, too, had demonstrated at length that the hylomorphism of *De anima* should not be played off against 'an instrumental dualism' of *De motu animalium*, because on more than one occasion both positions were adopted by Aristotle in one and the same work. Ms. Nussbaum also states that "'tool" language is no proof of instrumental dualism in the sense of a rejection of hylomorphism' (150). In a later essay she underpins this statement: 'Tool language abounds in clearly hylomorphic discussions. Indeed one need go no further than the final definition of *psyché* in *De anima* 2.1, the showcase of Nuyens's "third period"; for *psyché* is said to be the *entelecheia* of a *sôma physikon organikon*, a natural tool-like body, or body equipped with useful tool-like parts'. And this passage is followed in 412b5-8 by 'the strongest statement Aristotle makes about the hylomorphic unity of soul and body'.⁴⁹

Crucial to Ms Nussbaum's interpretation is her claim on p. 149: 'in chapters 7-8, an initial change associated with perception caused, automatically, the succeeding changes leading to motion; in chapter 10, *pneuma* steps in to take a central role'. In my opinion, however, she is wrong to assume that in chapters 7 and 8 the doctrine of *pneuma* is not yet presupposed.

⁴⁸ Her 1985 paperback edition, too, mentions only English-language publications in the supplement to the bibliography (xxvii-xxix).

⁴⁹ M.C. Nussbaum, in *Essays on Aristotle's De anima* (Oxford 1992) 6.

G. Freudenthal (1995)

The book by G. Freudenthal⁵⁰ is a typical example of a publication in which a problem is spotted and then solved by creating new problems. In this case it is the acknowledged problem of the relationship of Aristotle's psychology and his doctrine of 'vital heat'.

Freudenthal solves this problem by asserting that in actual fact this is one theory, in which the 'vital heat' is not just given an instrumental, executive role, but is itself a formative principle too. He then goes on to claim that this theory derives from the pre-Socratics and was used by Aristotle in his lost work *De philosophia*. However, he did so in the context of a cosmology which presupposed only four elements (on this point Freudenthal follows the highly disputable speculations of D.E. Hahm⁵¹ and, to a certain extent, of P. Moraux).

As is well-known, the surviving writings of the Aristotelian Corpus presuppose a doctrine of five elements. Freudenthal therefore has to assume that Aristotle gave up his original theory of *De philosophia* (78), but that nevertheless there are clearly recognizable traces to be recovered in the doctrine of 'innate *pneuma*' which we encounter in the treatises of the Corpus.

It is always surprising how uncritically supporters of such theories of development look at the evident questions which such 'solutions' raise. To start with, one would like to know very precisely why a certain theory was no longer considered useful by an author. And at the very least it should also be demonstrated that the later conception solves these problems more satisfactorily. The assumption that the early theory remains clearly present always suggests that the philosopher in question has analyzed the problem insufficiently. But in that case the reason for change is not very urgent. Or his later conception suffers from internal contradictions. But then the reason for a change of position is not very convincing, since the author would have no urgency to resolve an internal conflict in his earlier view.

Those who want to follow D.E. Hahm in arguing that Aristotle may have held the view in *De philosophia* that the stars and planets were made of Fire (86f.) must indicate how Aristotle explained to himself

⁵⁰ G. Freudenthal, *Aristotle's theory of material substance. Heat and pneuma, form and soul* (Oxford 1995).

⁵¹ D.E. Hahm, 'The fifth element in Aristotle's *De philosophia*: a critical re-examination', *J.H.S.* 102 (1982) 60-74.

and to his readers why the Fire of which the celestial gods are made moves against its nature in a circular orbit. And whether such a movement can be eternal and effortless. And if not, whether the criticism in the *De philosophia* of Plato's *Timaeus* can be properly understood.

It is also odd to assume that the term 'ether' was used in *De philosophia* and then to identify it with 'heat' (89), although Aristotle emphatically rejects the identification of 'ether' with 'fire' and 'heat' in his surviving work.

This survey of the modern debate on Aristotle's psychology may suffice to show that this part of his philosophy has raised many problems, even though the author himself greatly emphasized its importance and central place⁵². In the present study I propose an alternative view which, I claim, bases itself on the material passed down by the tradition, and which solves (a part of) the problems noted.

⁵² *Anim.* I 1, 402a1-7.

CHAPTER THREE

PNEUMA AS THE ORGANON OF THE SOUL IN DE MOTU ANIMALIUM

Before the twelfth century, when Michael of Ephesus took the task upon him, no one had extensively commented on the work *De motu animalium*, though its authorship was never disputed in Antiquity. In the thirteenth century Albertus Magnus addressed the same task. In modern times the work has long been regarded as a part of the Aristotelian Corpus which was wrongly attributed to Aristotle.¹ Today, however, mainly due to the influence of W. Jaeger, the work has been definitely recognized as genuine.² F. Nuyens assigned the work to the instrumentalist-vitalist transitional phase in Aristotle's psychology. C. Lefèvre seriously undermined Nuyens' results by arguing that there are insufficient grounds for making a doctrinary distinction between *De motu animalium* and *De anima*.³ The debate over the work has benefitted much from the important study which M.C. Nussbaum devoted to it in 1978.⁴ But on a very crucial point her interpretation can be improved. She believes that *De motu animalium* continues the hylomorphic doctrine of *De anima* (taken in the traditional sense, in which the soul is the form of the visible body) and makes an

¹ In 1944 L. Robin, *Aristote* 18, still considered its authenticity uncertain.

² W. Jaeger, 'Das *Pneuma* im Lykeion', *Hermes* 48 (1913) 29-74; repr. in id. *Scripta minora* (Roma 1960) I 57-102. It is surprising that Jaeger never examined the relationship between the philosophical position of *Anim.* and that of *Motu anim.*, especially because he noted that, when Aristotle wrote *Anim.* III 10, 433b19ff., he must have already thought out *Motu anim.* (repr. 1960, 69). L. Torracca, 'Sull' autenticità del *De motu animalium* di Aristotele', *Maia* 10 (1958) 220-233, regards the position of *Motu anim.* as incompatible with *De anima*. But he does think that *Motu anim.* can be seen as a logical development after *De anima* and as an attempt to synthesize its pure psychology with animal psychology. D. Lanza, *Aristotele, Opere biologiche* (1971) 1249-1252 is convinced of the authenticity and the internal cohesion of the work. Likewise P. Louis (Paris 1973) viii-xiii; M.C. Nussbaum (see n. 4) 3-12.

³ C. Lefèvre (1972) 156-173.

⁴ *Aristotle's De motu animalium*, text with transl., comm. and interpretive essays by M.C. Nussbaum (Princeton 1978; ²1985). I follow the Greek text which she has printed in her book. A. Preus gives his own translation in *Aristotle and Michael of Ephesus, On the movement and progression of animals* (Hildesheim/New York 1981).

interesting addition to it. Her argument is mainly based on chapter 10 in *De motu animalium*.⁵

However, chapter 10 does not contain an unexpected twist and addition to the theory which Aristotle set out in *De anima* and in the preceding chapters of *De motu animalium*. The chapters which lead up to chap. 10 are also governed by the theory which Aristotle elaborates in detail there. But this is, indeed, a theory which, as M.C. Nussbaum herself mentions, 'does ... introduce an extra, apparently non-empirical, component in addition to the ones he has already described'.⁶

The theory of De motu animalium 10

It is interesting that in chapter 10 of this work Aristotle sets up the explanatory structure for the possibility of movement of living creatures by analogy with his theory about movement in the cosmos:⁷ movement of that which is moved by something else is initially reduced to the movement of an entity which moves while it is moved itself. But this entity mediates an impulse towards movement by something which is *not* in motion itself. That is to say, there is an object of desire which induces an activity of the living creature. This happens because an object brings about desire (*orexis*) on the part of the living creature, a desire which then has effects on the physical constitution of the living creature.

The interesting thing about the introduction to this chapter is that Aristotle does not situate 'desire' exclusively in the soul but links it emphatically with a somatic entity, and that he distinguishes between the 'ensouled' bodies of living creatures and a special body which is located in these ensouled bodies but is distinct from it.⁸ Aristotle claims that this body must possess its own internal *dynamis* (power) and *ischys* (strength). Otherwise it would be incapable of moving

⁵ M.C. Nussbaum (1978) 146-150. In her study *The fragility of goodness. Luck and ethics in Greek tragedy and philosophy* (Cambridge 1986) 276ff. she herself proposed corrections to her 1978 interpretation.

⁶ M.C. Nussbaum (1978) 143.

⁷ This is also the case in *Anim.* I 3, 406a3-10, where Aristotle links up with *Phys.* VIII 5 for his criticism of Plato's doctrine of the soul's self-movement. See chapter 6 below.

⁸ *Motu anim.* 10, 703a5-6: ἐστὶν ἡ ὄρεξις τὸ μέσον, ὃ κινεῖ κινούμενον· ἐν δὲ τοῖς ἐμψύχοις σώμασι δεῖ τι εἶναι σῶμα τοιοῦτον.

something else. He then identifies this body as the innate *pneuma* (*pneuma symphyton*).⁹

Aristotle makes a distinction between this special body and a 'soul-principle' (*archè psychikè*) which is located in the heart or in what is analogous to the heart.¹⁰ On account of this body's special relationship with the 'soul-principle', Aristotle posits that *pneuma*, too, is connected with the heart.¹¹ However, he also implies that the innate *pneuma* is not only connected with the heart but operates throughout the body of the living creature to ensure the unity and cohesion of all parts with the soul-principle, which is not situated in the entire body of the living creature, but only in the 'command centre'.¹² For the

⁹ *Motu anim.* 10, 703a9. The best treatment of the entire problem of the *symphyton pneuma* is that in Aristotle, *Generation of animals*, with an English transl. by A.L. Peck (London 1942; repr. 1963), Appendix B, 576-593. Peck shows convincingly that the instrumentalist view of *pneuma* pervades *Gener. anim.*, a work of which he says in his Preface that, in it, 'Aristotle's thought is to be seen integrated as it is nowhere else' (p. v). Peck also believes that the concept of *pneuma* could provide the key to Aristotle's philosophy. Cf. J.M. Rist, *The mind of Aristotle. A study in philosophical growth* (Toronto 1989) xvii: 'The late Dr A.L. Peck had assured me ... that, if I could begin to understand *pneuma*, I should begin to understand Aristotle'. W.S. Hett in his edition with an English translation of *De anima* and the *Parva naturalia* (London 1936) had also remarked: 'Unhappily Aristotle never explains clearly what he understands by this πνεῦμα.' Like Peck (1942) 159 note (a) I leave the word *pneuma* untranslated, because no translation is truly adequate. 'Breath' does not fit because already in sperm there is *pneuma*.

¹⁰ *Motu anim.* 10, 703a14: ἐπεὶ δ' ἡ ἀρχὴ τοῖς μὲν ἐν τῇ καρδίᾳ, τοῖς δ' ἐν τῷ ἀνάλογον ... To avoid F. Nuyens' conclusion that *Motu anim.* was conceived before *Anim.*, P. Louis (Paris 1973) xviii uses a highly contrived argument: 'En réalité, Aristote, dans le passage en question [i.e. 10, 703a29-b2 - APB] ne vise aucunement à dire où se trouve le siège de l'âme. Il se propose seulement de préciser comment l'âme meut le corps et où se trouve le principe du mouvement qu'elle lui imprime'. See also T. Tracy, 'Heart and soul in Aristotle', J.P. Anton; A. Preus (eds), *Essays in ancient Greek philosophy* vol. II (Albany N.Y. 1983) 321-339 who mentions 'the troublesome passage at the end of MA 703a28' (p. 336) and concludes: 'The soul as originating change and controlling the life functions is present in the heart in a way in which it is not present in other organs' (p. 337).

¹¹ *Motu anim.* 10, 703a11-16.

¹² *Motu anim.* 10, 703a29-703b2. All parts of the visible body can only 'be naturally connected' (προσπεφυκέναι) with the soul which resides in the heart because *pneuma* pervades the entire visible body. Thus ὑγρότης ζωτική can also be present in the male genitals (10, 703b22-26). Cf. *Mu.* 4, 394b9-12: πνεῦμα ἢ τε ἐν φυτοῖς καὶ ζῴοις (οὐσα) καὶ διὰ πάντων διήκουσα ἐμχυτός τε καὶ γόνιμος οὐσία and *Spir.* 2, 481b19: τὸ δὲ πνεῦμα δι' ὅλου τὸ σύμφυτον. Cf. 3, 482a33. This also underlies the proposition that a face that 'does not have soul' is not a face, *Gener. anim.* I 19, 726b16, while at the same time it can be said that the soul need not reside in every part of the body (*Motu anim.* 10, 703a36). Cf. also *Iuv.* 4, 469b6: πάντα δὲ τὰ μέρη καὶ πᾶν τὸ σῶμα τῶν ζῴων ἔχει τινὰ σύμφυτον θερμότητα φυσικὴν and b16. See A.L. Peck (1942) 593 on the continuity of *pneuma* between the sensory organs and the heart. Cf. also *Probl.* XXX 1, 954a4-6, which says that the veins of some

same reason the central position in the body is called 'the position of the leading principle' in *De iuventute*.¹³

Pneuma is also called the *organon* ('instrument')¹⁴ of movement. That is, it is the instrument for the soul-principle by which the soul-principle causes processes to start and end in the bodily parts of the living creature. *Pneuma* is able to do this because it can contract and expand under the influence of the soul-principle.¹⁵

Summing up, we may conclude that *pneuma* is interpreted in *De motu animalium* as a natural body that is an instrument for the soul to move the visible body. This *pneuma* itself is a 'natural body', but not the visible body of a plant, animal, or human being. It is the vehicle of the soul-principle, which itself is incorporeal.

The text of this chapter makes it clear that Aristotle here talks about 'body' in two essentially different senses.¹⁶ There is the body of the living creature which is visible and palpable and has many bodily parts.¹⁷ The body is called 'ensouled' (703a6), but it is ensouled only due to the presence and operation of that other, very special body which is not visible and palpable and which does not possess specific, distinct parts, i.e. *pneuma*. The visible body is 'alive', but not because

melancholics protrude from the skin. This is not on account of the amount of blood but because of the amount of *pneuma*. We will have to interpret *Sens.* 2, 438b8-10 from the same point of view: οὐ γὰρ ἐπὶ ἐσχάτου τοῦ ὁμματος ἡ ψυχὴ ἢ τῆς ψυχῆς τὸ αἰσθητικόν ἐστίν, ἀλλὰ δηλὸν ὅτι ἐντός. 'Εντός here cannot stand for τὸ ἐντός τοῦ ὁμματος, as W.D. Ross (1955) 192 and P. Siwek argue. But see also Ross 16. For the correct interpretation, see A.L. Peck, *Generation of animals*, 591-593; C.H. Kahn, *A.G.Ph.* 48 (1966) 75 n. 74. A remarkable text in this connection is *Corp. Herm.* X 13: ψυχὴ δὲ ἀνθρώπου ὀχεῖται τὸν τρόπον τοῦτον· ὁ νοῦς ἐν τῷ λόγῳ, ὁ λόγος ἐν τῇ ψυχῇ, ἡ ψυχὴ ἐν τῷ πνεύματι· τὸ πνεῦμα διήκον διὰ φλεβῶν καὶ ἀρτηρίων καὶ αἵματος κινεῖ τὸ ζῶον καὶ ὥσπερ τρόπον τινὰ βαστάζει. Cf. the comm. *ad loc.* by A.J. Festugière (1946) 129. There is insufficient reason to characterize this passage as 'd'allure stoïcien', as A.J. Festugière (1932) 199 n. 2 does.

¹³ *Iuv.* 4, 469a33: ἔστιν ἡ τοῦ τοιούτου μέσου χώρα ἄρχοντος χώρα. It is totally unclear on what grounds M.C. Nussbaum (1978) 152 can insist that the comparison to a city in chap. 10 is not incompatible with the traditional hylomorphistic conception.

¹⁴ *Motu anim.* 10, 703a20. For the semantic development of the Greek word *organon*, cf. S. Byl, 'Note sur la polysémie d'*organon* et les origines du finalisme', *Ant. Class.* 40 (1971) 121-133. Aristotle seems to have been the first to use the derived adjective '*organikos*' (132).

¹⁵ *Motu anim.* 10, 703a18-24. For the terms 'to contract' and 'to expand' the Greek text has συστέλλεσθαι and αὐξάνεσθαι. Cf. 7, 701b14-15.

¹⁶ This is also the case in *Gener. anim.* II 3, 736b30, which talks about a 'more divine body' in answer to the question 'by the agency of what are the parts of the new embryonic individual produced'. Cf. II 1, 733b32. See also *Part. anim.* II 7, 652b7-16; I 1, 640b30-641a15.

¹⁷ Aristotle also calls this τὸ ἔξω σῶμα. Cf. *Sens.* 4, 442a7.

the soul is present throughout it, but because, through *pneuma*, it is connected with the soul-principle and so participates in soul.¹⁸ *Pneuma* is in direct contact with the 'soul-principle' and carries out its directives throughout the visible body of the living creature. This immediately raises the question whether this body can also be called an 'ensouled body' and whether it actually qualifies more for this description than the visible body, which depends on the operation of *pneuma* for its vitalization and is not directly related to the soul-principle.

But when we observe that the innate *pneuma* of animals and human beings is characterized by the activity of *orexis*, this implies that it can be described as an *empsychon sôma*,¹⁹ but that it is an *empsychon sôma* in a different way from a concrete living creature (*zôion*). The relationship with the *psychê* is more direct for *pneuma* than that of the living creature with its *psychê*.²⁰ For that reason *pneuma* could be called 'soul-body' in distinction from the 'ensouled' visible body. But as a body *pneuma* also belongs to the sphere of physical reality.

In 10, 703a28 *pneuma* is also called 'the part which is moved', by means of which the soul causes movement.²¹

Now chapter 10 of *De motu animalium* has often been regarded as a special chapter which independently adds a number of striking insights to existing and well-known Aristotelian doctrines.²² But this is largely due to the fact that scholars, in interpreting the previous chapters, have failed to see how they anticipate what we find in chapter 10.

¹⁸ Cf. *Motu anim.* 10, 703a34: ὥστε μηδὲν δεῖν ἐν ἐκάστῳ εἶναι ψυχὴν, ἀλλ' ἐν τινὶ ἀρχῇ τοῦ σώματος οὗσης τὰλλα ζῆν μὲν τῷ προσπεφυκέναι ...

¹⁹ Cf. *Mu.* 4, 394b11, where *pneuma* is referred to as ἐμψυχος οὐσία. See chapter 10 below.

²⁰ Cf. *Motu anim.* 9, 703a2: τοῦτο δ' ἐστὶν ἡ ψυχὴ, ἕτερον μὲν οὐσα τοῦ μεγέθους τοῦ τοιούτου, ἐν τούτῳ δ' οὐσα.

²¹ Cf. C. Lefèvre (1972) 165-169 for the parallels with *Anim.* III 10.

²² F.F. Kampe, *Die Erkenntnislehre des Aristoteles* (Leipzig 1870) 16 n. 5 regarded these insights as so anomalous that he rejected Aristotle's authorship. J. Kollesch (1985) 58-59 also regards chapter 10 as not being integrated into Aristotle's conception. The opposite position is taken by M.C. Nussbaum (1978) 6: (*M.a.*'s) 'heterogeneous contents are parts of a carefully organized whole'. In her view, this also applies to *Motu anim.* chap. 10. D. Lanza (1971) 1251 states: 'Il *De motu* non deve in alcun modo essere considerato come un affastellamento di argomentazioni disordinate'.

The previous chapters

Aristotle starts his analysis of the movement of living creatures in *De motu animalium* 6 with the proposition that a living creature is moved by deliberation (*dianoia*), imagination (*phantasia*), choice (*prohairesis*), wish (*boulêsis*), and appetite (*epithymia*).²³ But he immediately reduces this variety of principles of movement to ‘reason’ (*nous*) and ‘desire’ (*orexis*).²⁴ It is clear here that ‘reason’ is a factor which plays a role in the motivation of human movement, but not in that of animals. We should also consider that *dianoia*, *phantasia*, and *prohairesis* are viewed by Aristotle as activities of the soul which are aimed at the forms of concrete things, stripped of their materiality. The situation is different with *boulêsis*, *thymos*, and *epithymia*: these are all variants of *orexis*, that is to say, spontaneous, involuntary responses of the living creature to its environment which are not initiated by mental activity.²⁵ And we read in chapter 10 that this is connected with a body which mediates between the principle of movement and the entire concrete, visible body of the living creature.

This decisive distinction is also drawn by Aristotle in chapter 6, where he says that ‘the prime mover moves without being moved, whereas desire and the vehicle of desire move while being moved themselves’.²⁶ This means that the concept or the image as immaterial entity is located by Aristotle in the soul as *entelecheia* and as immaterial form. But he situates *orexis* in a ‘vehicle of *orexis*’, which in chapter 10 is taken to be a body and instrument of the soul.²⁷ And he holds the same view in *De anima*.²⁸ For this reason we should not simply translate *to orektikon* (τὸ ὀρεκτικόν) in *De motu animalium* 6, 701a1 as ‘the faculty of desire’,²⁹ but we should consider whether

²³ *Motu anim.* 6, 700b17-18.

²⁴ *Motu anim.* 6, 700b19: νοῦν καὶ ὄρεξιν. This is taken up in b24 by the words: τὸ ὄρεκτον καὶ τὸ διανοητόν. Cf. *Metaph.* A 7, 1072a26.

²⁵ *Motu anim.* 6, 700b22.

²⁶ *Motu anim.* 6, 700b35: τὸ μὲν οὖν πρῶτον οὐ κινούμενον κινεῖ, ἡ δ’ ὄρεξις καὶ τὸ ὀρεκτικὸν κινούμενον κινεῖ.

²⁷ *Motu anim.* 10, 703a4-6.

²⁸ *Anim.* III 10, 433b19. Cf. M.C. Nussbaum (1978) 9 with reference to W. Jaeger (1913).

²⁹ M.C. Nussbaum (1978) 8: ‘faculty of intention’; A. Preus (1981). The very valuable article by M. Canto-Sperber, ‘Mouvement des animaux et motivation humaine dans le livre III du *De anima* d’Aristote’, *Études philos.* janvier (1997) 59-96 also suffers from the defect that the author constantly interprets τὸ ὀρεκτικόν as ‘faculté désirante’ (60 and *passim*). A typical passage is found on p. 60: ‘l’animal est mû par le désir grâce à un instrument (*organon*) qui a quelque chose de corporel et

Aristotle perhaps means 'the somatic vehicle of *orexis*', as the instrumental body of the soul. It is this 'vehicle of *orexis*', namely *pneuma*, which is said to 'undergo change' under the influence of perception or imagination.³⁰ In the next chapter 7 *orexis* also plays a key role as a mediating entity.³¹ Whereas Plato ascribed all the activities of thought, perception, memory, and desire to the incorporeal soul, Aristotle distinguishes between immaterial facets of soul-activity which act as catalysts of desires (*orexeis*) and the soul-body which is the vehicle of these desires. This distinction is the reason why so many matters connected with the soul must be regarded as co-productions of soul and soul-body.³²

A crucial example is given by Aristotle in *De motu animalium* chapter 7, where he talks about the complex movement of automatons or a 'toy wagon with wheels of unequal diameter'. Such a toy has wheels and axes of wood or iron and strings of the winding mechanism. Aristotle compares the wheels and axes with the bones of the living creature; the strings with the muscles. But the automaton only comes 'alive' 'when a tiny movement occurs'.³³ This tiny movement must be

doit être recherché dans les actes communs à l'âme et au corps (433b20: *en tois koinois sômatos kai psukhês ergois*). Cf. also 67. No wonder therefore that she (like Nussbaum) blames Aristotle for the fact that he 'reste très elliptique quant à la description des processus requis pour que des états mentaux aient un rapport (...) avec les mouvements physiques du corps animal'. But cf. also p. 80. However, Ms Canto does clearly show that the position of *Anim.* III 9-11 is completely in line with that of *Motu anim.* S. Everson, *Aristotle on perception* (Oxford 1997) 158 rightly emphasizes: 'The *aisthêtikon* and the *phantastikon* are not the *capacities* of perception and *phantasia*, but rather what possesses these capacities' (polemicizing with the Oxford translation of the *Parva naturalia*).

³⁰ *Motu anim.* 6, 701a4-6: κινεῖται γὰρ καὶ πορεύεται τὸ ζῷον ὁρέξει ἢ προαιρέσει, ἀλλοιωθέντος τινός κατὰ τὴν αἴσθησιν ἢ τὴν φαντασίαν. The words ἀλλοιωθέντος τινός should not be translated here by something vague such as 'when some alteration has been caused' (E.S. Forster) or 'when some alteration has taken place' (M.C. Nussbaum, 40; 151), or 'nachdem ... eine Veränderung eingetreten ist' (J. Kollesch), as the text does not say something like ἀλλοιώσεως τινός γενομένης. And in 7, 701b29 the 'change' involves heat or cold, which is also a somatic affair. So while *pneuma* itself can change under the influence of the soul-principle, it also causes movement of the other bodily parts which is not 'movement as regards quality', i.e. change, but motory. In 5, 700a26-b2 Aristotle clearly distinguishes locomotion from movement in the sense of change and growth, and gives ontological priority to locomotion. The incorporeal soul-principle is the cause of movement because it does bring about 'change' (of *pneuma*). Cf. *Motu anim.* 10, 703a24: δεῖ δὲ τὸ μέλλον κινεῖν μὴ ἀλλοιώσει τοιοῦτον εἶναι. M.C. Nussbaum wrongly translates here 'without undergoing alteration'.

³¹ Cf. *Motu anim.* 7, 701a30; 31; 35; 37.

³² Cf. *Anim.* III 10, 433b20 and I 1, 403a16ff.

³³ *Motu anim.* 7, 701b2: μικρᾶς κινήσεως γινομένης. The modern metaphor of a 'catalyst' ('dissolver') can be seen to find its origin in a concrete example here. The

a movement of a natural body, because according to Aristotle movement without a natural body which is in motion is impossible and because otherwise this first movement cannot have an effect on physical entities. Again, therefore, we must think of a tiny movement in the *sôma orektikon*, i.e. the body which serves the soul as an instrument, i.e. *pneuma*.³⁴

(There is a close correspondence with another passage in the Aristotelian Corpus which uses the image of the automaton: *De mundo* 6, 398b13.³⁵ There, too, Aristotle explains that a variety of cosmic movements are the result of a single movement, namely that of the outer celestial sphere, which the transcendent Unmoved Mover brings about by means of his *dynamis*. In *Metaphysics* Λ 7 Aristotle talks about the Unmoved Mover as the cause of movement as an object of *orexis*.)

However, Aristotle goes on to explain what the difference is between an automaton and a living creature: the parts of an automaton remain what they are and do not change. And he underlines the difference compared with the movement of a living creature by observing that even if the internal wheels of the wagon were to change in size, the resulting movement would be the same.³⁶ This is different in a living creature, where something internal changes due to a soul-principle. Aristotle continues: 'But in a living creature one thing can increase but also decrease, and change its form. For the parts expand through heat and again contract through cold and thus change. And the causes of these changes are imaginations and sensations and concepts.'³⁷

In the view of M.C. Nussbaum, Aristotle is saying here that sensory perceptions have a direct effect on bodily parts. In the Aristotelian

image of the automaton underlies the philosophically fertile idea of 'un-winding' or 'development'.

³⁴ It is of course tempting to contrast this passage with the complex image of the (chariot with) two horses and a charioteer which Plato, *Phdr.* 246a6 uses as a model of the soul as a self-moving principle. In 701b4 Aristotle talks about τὸ ἀμάξιον and his ὁχοῦμενος. In chapter 6 I will suggest that Aristotle's criticism of Plato's theory of soul as an (immaterial) principle of self-movement led him to present the soul as a passenger and charioteer in a soul-sôma as vehicle (*ochêma*).

³⁵ C. Lefèvre (1972) 158 n. 9 wrongly mentions only *Gener. anim.* II 1, 734b9-17 and II 5, 741b7-10 and *Metaph.* A 2, 983a14.

³⁶ *Motu anim.* 7, 701b11-13. This assertion only seems to make sense if 'internal wheels' (οἱ ἐντὸς τροχοί) refers to parts of the mechanism which differ from the unequal wheels in 701b5. Cf. in 8, 702a7: τὰ ἐντὸς καὶ τὰ περὶ τὰς ἀρχάς.

³⁷ *Motu anim.* 7, 701b10-17. See also A.L. Peck (1942) Appendix B. P. Webb, 'Bodily structure and psychic faculties in Aristotle's theory of perception', *Hermes* 110 (1982) 39 has also explained this passage clearly.

theory, however, perception of an immaterial form of a concrete thing cannot have a physical effect on any part of the body. So here, too, we shall have to assume that Aristotle means that perceptions have an effect on *pneuma* as the vehicle of *orexeis* and that consequently its heat increases (for instance in the case of anger) or decreases (in the case of fear), and, next, this change in the quality of *pneuma* has a series of consequences for the other parts of the body. In chapter 10 Aristotle says explicitly that the instrument of the soul must be capable of expansion and contraction. And he then observes that this is in fact the case with *pneuma*.³⁸

But these changes in *pneuma* have all kinds of effects on the other parts of the body. For the beginning of the chain of events is a change 'in the region of the heart' and 'in an imperceptibly small part'.³⁹ And this is the place where *pneuma* is present to the highest degree and where it is directly connected with the soul-principle.

On the basis of the above considerations we will now have to determine in what way Aristotle talks about 'instrumental parts' (*organika moria* or *merè*) in *De motu animalium* 8, 702a9 and 702a18. To begin with, the translation 'organic parts'⁴⁰ suggests an avoidance of difficult choices or even a failure to recognize the need to choose. Nussbaum interprets *organika merè* here as 'non-homoimerous parts'. She believes that in general *organika* is equivalent to '*anhomoimerè*' and offers a series of examples to demonstrate this.⁴¹ In 8, 702a8 *organika moria* should be interpreted as 'members', in her view. But because Aristotle speaks about 'that which is situated around the *archai* of the instrumental parts' (τὰ περὶ τὰς ἀρχὰς τῶν ὀργανικῶν μορίων), Nussbaum needs to indicate what these *archai* (ἀρχαί) are. Her solution is: 'presumably the joints, or the hypothetical points in

³⁸ *Motu anim.* 10, 703a20-23: ὥστε δεῖ τὸ ὄργανον αὐξάνεσθαι τε δύνασθαι καὶ συστέλλεσθαι. τοιαύτη δ' ἐστὶν ἡ τοῦ πνεύματος φύσις. Marc. Aurel. 1, 10 mentions that, according to Theophrastus, anger is accompanied by a sense of discomfort (λύπη) and inner contraction (λεληθυίας συστολῆς). On this theme in the Stoa, cf. J. Pépin, 'La légende orphique du supplice tyrrhénien', A. Cazenave; J.F. Lyotard, *L'art des confins. Mélanges offerts à M. de Gandillac* (Paris 1985) 387-406, 396 with nn. 24-25. Michael of Ephesus already posited a relationship between the section of chap. 7 and chap. 10. Cf. *Aristotle and Michael of Ephesus, On the movement and progression of animals* ed. by A. Preus (1981) 20.

³⁹ *Motu anim.* 7, 701b24-30; cf. 9, 702b15-24.

⁴⁰ Thus E.S. Forster; M.C. Nussbaum 44; 46; 145. D. Lanza 1267 correctly translates 'le parti instrumentali'.

⁴¹ M.C. Nussbaum (1978) 356: *Part. anim.* II 1, 646b25; 647a3; *Gener. anim.* II 1, 734b27-28; *Inc. anim.* 4, 705b22.

them'.⁴² We can go along with her in this, but her explanation fails to take sufficiently into account that Aristotle in writing this chapter clearly has in mind his theory of the innate *pneuma*. That is why I want to reinterpret this chapter in anticipation of what is said in chapter 10. All the more so because chapter 8 emphatically raises the problem of *noësis* and *phantasia* as catalysts of animal movement.

After saying that emotions [of the soul] have bio-physical effects, for instance that people turn cold with fear and hot with sexual desire, Aristotle underlines the effectiveness of the structure of living creatures with these words: 'That is why the internal parts and the parts where the instrumental parts begin are rationally organized'.⁴³ Because this chapter deals with the question of how the translation of psychic conditions into bio-physical activity takes place, we need to give a place here to the mediating entity which *orexis* and 'the vehicle of *orexis*' are. This is possible if we take 'the internal parts' to refer particularly to the heart and the *pneuma* present there and 'the parts where the instrumental parts begin' to those parts of tendons or muscles which undergo most directly the effect of *pneuma*.

Because Aristotle distinguishes in all 'instrumental parts' such as 'hands' and 'feet' between a 'beginning' (*archè*) and an 'end' (*teleutè*),⁴⁴ he can talk about the 'initial parts' of these 'instrumental parts',⁴⁵ i.e. the parts where the 'instrumental parts' are in direct contact with *pneuma* and undergo the effect of heat or cold from *pneuma*. For when it is now said of these 'initial parts of the instrumental parts' that they 'change from solid to moist and from moist to solid and from soft to hard and vice versa',⁴⁶ we should consider that these changes are due to the 'heat' and 'cold' of *pneuma*. Only by mediation of *pneuma* can a *phantasia* of the soul which is located in the heart have an effect on the surface of the skin or on the genitals.

⁴² M.C. Nussbaum (1978) 357. Nussbaum probably reaches this conclusion on the strength of 1, 698b1-7. But the general principle formulated there: 'the *archè* is not in motion, but the part which directly depends on it is', leads Aristotle in chap. 10 to the conclusion: 'the soul is not in motion, but the part which is the vehicle of desire is'. J. Kollesch has in 702a8 the curious translation: 'die Gebilde, die sich im Bereich der Ausgangspunkte (der Bewegung) für die organischen Teile befinden'.

⁴³ *Motu anim.* 8, 702a7-9: ὥστ' εὐλόγως ἤδη δημιουργεῖται τὰ ἐντὸς καὶ τὰ περὶ τὰς ἀρχὰς τῶν ὀργανικῶν μορίων.

⁴⁴ Cf. *Motu anim.* 8, 702a23-b11.

⁴⁵ Cf. Alex. Aphrod. *Anim.* 77, 22.

⁴⁶ *Motu anim.* 8, 702a9-10: μεταβάλλοντα ἐκ πεπηγότων ὑγρὰ καὶ ἐξ ὑγρῶν πεπηγότα καὶ μαλακὰ καὶ σκληρὰ ἐξ ἀλλήλων.

Exactly the same idea is presented in *De generatione animalium* II 1⁴⁷ and in chapter 9 of the work *De spiritu*⁴⁸ (which was branded un-Aristotelian by W. Jaeger in his famous article from 1913, in which he successfully argued for the authenticity of *De motu animalium*⁴⁹). In that chapter the function of fire or of *pneuma* or vital heat in living nature is compared with the use that craftsmen make of it in various trades (goldsmiths, coppersmiths, carpenters, or butchers). And various effects of this fire that is used as an instrument (*organon*) are summed up: it is used for condensation, for dilution, for liquefaction, and for solidification.⁵⁰ In this connection the author speaks about 'Nature's fire' in the sense of the fire which is used in living nature for the production of living bodies, just as craft uses fire for the manufacture of various products of craftsmanship. The same chapter of *De spiritu* also emphasizes, in an entirely Aristotelian fashion,⁵¹ that the use of this vital heat is regulated by the soul. In *De generatione animalium* V 8 *pneuma* is designated in exactly the same way as 'an instrument that is suitable for many purposes'.⁵²

In the explanation of what immediately follows in chapter 8 we shall also have to correct Nussbaum's treatment. In her view, Aristotle postulates here that sensory perception has, directly and almost automatically, a physiological effect on the body of the living creature (146-148)⁵³. She seems to ignore the fact that Aristotle places the centre of perception not in the senses but in the heart.⁵⁴ The point in

⁴⁷ *Gener. anim.* II 1, 734b31: σκληρὰ μὲν οὖν καὶ μαλακὰ καὶ γλίσχρα καὶ κραῦρα καὶ ὅσα ἄλλα τοιαῦτα πάθη ὑπάρχει τοῖς ἐμψύχοις μορίοις, θερμότης καὶ ψυχρότης ποιήσειεν ἂν ...

⁴⁸ Cf. [Aristotele,] *De spiritu* a cura di A. Roselli (Pisa 1992).

⁴⁹ W. Jaeger (repr. 1960) 76-102.

⁵⁰ *Spir.* 9, 485a31: τὰ μὲν πυκνοῖ, τὰ δὲ μανοῖ καὶ τήκει, τὰ δὲ πήγνυσι. ἐν δὲ δὴ τοῖς ἐμψύχοις οὕτως ὑποληπτέον, ὥσπερ φύσεως πῦρ ζητοῦντα, καθάπερ τέχνης. W. Jaeger (repr. 1960) 98-102 sets this chapter completely apart and wrongly labels it a Stoic addition.

⁵¹ Cf. *Gener. anim.* II 4, 740b25-34: ὥσπερ δὲ τὰ ὑπὸ τῆς τέχνης γιγνόμενα γίγνεται διὰ τῶν ὀργάνων ... οὕτως ἡ τῆς θρεπτικῆς ψυχῆς δύναμις... χρωμένη οἷον ὀργάνοις θερμότητι καὶ ψυχρότητι ... συνίστησι τὸ φύσει γιγνόμενον. Cf. also the important text of II 3, 736b33-737a7 and chapter 8 below.

⁵² *Gener. anim.* V 8, 789b6-13, especially b8: ἐπεὶ καὶ τὸ τῷ πνεύματι ἐργάζεσθαι τὰ πολλὰ εἰκὸς ὡς ὀργανῶν.

⁵³ She maintains this view but qualifies it in her *Fragility of goodness* (Cambridge 1986) 279ff.

⁵⁴ *Motu anim.* 9, 702b15-20. Cf. *Part. anim.* II 1, 647a25-32. *Somn.* 2, 455b34-456a4. I. Block (1961) argued a difference between Aristotle's position in *De anima*, where every sensory organ is a separate vehicle of perception, and the *Parva naturalia*, where he developed a central organ of perception. As we shall show in chapter 5, Block's conjecture is based on a wrong interpretation of τὸ ὅλον σῶμα τὸ

this chapter is not that the activity of seeing directly brings about a certain condition of the material eye, but that a certain visual perception (which is transmitted from the senses to the centre of perception in the heart) results in a reaction from the centre of perception to the skin, so that it is stimulated, for instance to form gooseflesh, or to the muscles, so that they set in motion the bones of the legs, or to the genitals.⁵⁵ When Aristotle adds: 'And because the passive and the active have the constitution we have many times described ..., the action of one immediately has an effect on the other',⁵⁶ he is thinking of an argument as set out in *De anima* I 3, 407b17-19: between what is active and what is passive there must exist a *koinônia*, a communality, and this does not exist between just any entities. He consequently argues there that a soul cannot incarnate in just any body, but only in a body that is specially predisposed to be '*organon* of that specific soul'. This argument is only satisfactory and meaningful if Aristotle is already saying: there is a special body which, unlike and more than other bodies, has a *koinônia* with the soul as guiding principle.⁵⁷

In accordance with this, we can now explain the passage in 702a17-19, where the author says: 'the qualities condition the instrumental parts, *orexis* the qualities, and the *phantasia orexis*'.⁵⁸ The instrumental parts can be interpreted here as the parts which are instrumental for 'walking', mentioned in 702a16. These parts are (physically) activated by the action of the heat or cold of *pneuma* as the vehicle of *orexis*. *Orexis* is the effect of a psychic impulse on the part of the *phantasia*.

So both chapter 8 and chapter 10 support the theory that the soul is the (unmoved) guiding principle of the movement of the living

αἰσθητικόν in *Anim.* II 1, 413b24-25. For Aristotle's theory of perception the central position of the central organ of perception is essential in *De anima* too.

⁵⁵ Cf. *Motu anim.* 11, 703b7-8.

⁵⁶ *Motu anim.* 8, 702a11-15: καὶ ἔτι τοῦ παθητικοῦ καὶ ποιητικοῦ τοιαύτην ἔχοντων τὴν φύσιν οἷαν πολλαχοῦ εἰρήκαμεν ... εὐθὺς τὸ μὲν ποιεῖ τὸ δὲ πάσχει. In 702a20 Aristotle formulates this again by saying that τὸ ποιητικὸν καὶ παθητικὸν τῶν πρὸς ἀλλήλα εἶναι τὴν φύσιν. Cf. *Phys.* VIII 4, 255a34-b2.

⁵⁷ See chap. 4 below and P. Louis (1973) 168 n. 12. Cf. *Gener. corr.* I 7, 323b29 and *Part. anim.* II 1, 647a9, where the *koinônia* is based on the fact that the active principle and the passive principle belong to the same genus. It is significant that Aristotle in *Gener. anim.* II 3, 736b29-31 talks about a *koinônia* which exists between the *dynamis* of every soul and 'another, more divine body than that of the so-called elements'.

⁵⁸ *Motu anim.*, 8, 702a17: τὰ μὲν γὰρ ὀργανικὰ μέρη παρασκευάζει ἐπιτηδεῖως τὰ πάθη, ἡ δ' ὄρεξις τὰ πάθη, τὴν δ' ὄρεξιν ἡ φαντασία.

creature, and that this principle causes the movement of the living creature's muscles and members by means of a special 'instrumental part' of the living creature, i.e. *pneuma* as the *organon* of the soul. F. Solmsen rightly underlines the great importance of this passage as a text in which for the first time the translation of psychic processes into physical action is extensively described in its various phases.⁵⁹

The common cause of movement

We should pay attention also to the way in which *De motu animalium* sets out its programme: it will deal with 'the common cause of any kind of movement whatsoever'.⁶⁰ So this is quite different from what is suggested by the traditional title: 'On the movement of living creatures'. As usual, this title is derived from the first sentence, but the first sentence says that 'the movement of living creatures' *has already been discussed elsewhere*. The words 'the common cause of any movement whatsoever' refer to Aristotle's specific solution in which all process-like movements are explained by reducing them to an unmoved cause of movement and a directly connected 'natural body' which is the vehicle of desire. Anticipating our discussion of *De anima*, we can say here that, according to Aristotle, 'the common cause of any movement whatsoever' is 'a natural body that is the instrument of the soul'. Just so he will argue in *De generatione animalium* that the 'cause of generation' for new living creatures is a natural body which is the instrument of the soul, i.e. *pneuma*.

Having recognized the agreement between chapter 10 and chapters 6-8 and even chapter 1 of *De motu animalium* on the basis of a new interpretation, we are faced by a further question: should not the 'instrumental body' which is mentioned in the well-known definition

⁵⁹ F. Solmsen, 'Greek philosophy and the discovery of the nerves', *Mus. Helv.* 18 (1961) 177: '... here for the first time the translation of psychic processes into bodily action has been explained and traced through its successive stages'. Cf. T. Tracy, 'The soul/boatman analogy in Aristotle's *De anima*', *Class. Philol.* 77 (1982) 104-107. M. Matthen, 'The four causes in Aristotle's embryology', *Apeiron* 22 (1989) 159-179 offers an unsatisfactory treatment of this problem on pp. 167-171, because he sees *pneuma* as an 'organ of the body' and not as the *organon* of the soul and vehicle of *orexis*.

⁶⁰ *Motu anim.* 1, 698a3: ὅλως δὲ περὶ τῆς κοινῆς αἰτίας τοῦ κινεῖσθαι κίνησιν ὁποιαοῦν (...) ἐπισκεπτέον νῦν. Cf. the title of the translation by William of Moerbeke: '*De causa motus animalium*' and Aristotele, *Opere biologiche*, a cura di D. Lanza e M. Vegetti, 1249. See also P. Louis (1973) 69 n. 4.

of *De anima* II 1, 412b5-6 also be interpreted as the special, instrumental body which *pneuma* (or its analogue in plants) is? After all, *De anima* clearly denies the soul any form of self-movement.⁶¹ The soul there, unlike in Plato but just as in *De motu animalium*, is an unmoved principle of movement. And the visible body does not have self-movement either, but must be moved. Nowhere does the modern literature make it clear how Aristotle can have solved this problem in *De anima*, unless in the way which is fundamentally developed in *De motu animalium* and clearly indicated in *De anima* III 10.⁶² This would mean that the position of *De motu animalium* accords entirely, as regards the doctrine of soul and living nature, with that of *De anima*, not in the sense of the traditional interpretation, but in the sense of a special kind of instrumentalism.⁶³ This opens up the broader perspective of an agreement between the position of *De anima* and that of Aristotle's dialogues, such as *Eudemus* or *On the soul*.⁶⁴

The movement of cosmos and microcosmos

The cosmological theory of movement in *Metaph.* A 7 corresponds strikingly with the microcosmic theory of movement in *De motu animalium*.⁶⁵ This passage notes that God causes the movement of the

⁶¹ *Anim.* I 3, 405b31-406a4.

⁶² *Anim.* III 10, 433a31-b30. Cf. M.C. Nussbaum (1978) 9 with reference to W. Jaeger (1913). A. Preus, in *Aristotle and Michael of Ephesus* (1981) 25 notes: 'Curiously, he [Aristotle - APB] does not appeal to *pneuma* in the *de Anima*'. This observation is correct (although *Anim.* II 8, 420b20-21 implies the *pneuma* doctrine of the biological works), but as I shall argue in chapter 5, the doctrine of *pneuma* is comprehended in the general psychological theory of *Anim.* and Aristotle cannot talk about *pneuma* there because he does not confine himself to the life of (higher) animals and human beings, but also includes (vegetable) life, in which only an analogue of *pneuma* is present.

⁶³ M.C. Nussbaum (1978) 150 states against F. Nuyens regarding *Motu anim.*: 'In view of the mutual and well-embedded cross-references, we should assume compatibility with the *DA* except in the face of very strong evidence'. But this leads her to posit a hylomorphic explanation of *Motu anim.* C. Lefèvre (1972) 173 also equates the instrumentalism of *Motu anim.* with hylomorphism, which he considers typical of *De anima*. One of the unmistakable references in *Motu anim.* to *Anim.* as written and valid doctrine is 6, 700b4-6. Cf. P. Louis (1973) 165.

⁶⁴ M.C. Nussbaum (1978) 150 is right when she states: 'Nothing said about the soul in *MA* 6-8 implies that it is separable and substantial'. But she is wrong when she fails to recognize that *nothing* in *De motu animalium* rules out subsistence of the soul together with the *sôma organikon* which is its instrument. And the fact that the *entire* visible body is a product of the soul in combination with the 'instrumental body' argues against Nussbaum's position.

⁶⁵ *Metaph.* A 7, 1072a24-1072b14. Cf. C. Lefèvre (1972) 157-158; 170-171.

outer celestial sphere as an object of *orexis* and *erôs*, and that this sphere is the mediating entity by which the movement of all other parts of the cosmos is realized. In this process the ethereal sphere of the outer heavens plays, as ‘moved mover’, the role of ‘instrument’ for executing the counsel comprehended in the thought of the transcendent Unmoved Mover. This ethereal sphere can also be interpreted as a *psychikon sôma*. By way of illustration we can provide the following diagram.

| microcosm | megacosm |
|--|--|
| 1. soul-principle (in the heart) | 1. God |
| 2. <i>pneuma</i> as a fine-corporeal <i>sôma</i> and <i>organon</i> of the soul for bringing about movement in | 2. the outer celestial sphere as instrument for realizing movement in the lower celestial spheres and in |
| 3. the visible body of the living creature. | 3. the sublunary sphere. ⁶⁶ |

Just as there is no direct relationship between the soul-principle and the visible body in the individual living creature, so, on the level of the cosmos, there is no direct intervention in the sublunary sphere by the transcendent deity. The doctrine of divine Providence—constantly attributed to Aristotle—which extends throughout the heavenly region until the sphere of the Moon, but is not active in the sublunary sphere, can be called a logical consequence of this.⁶⁷

⁶⁶ This parallelism is clearly formulated in A.L. Peck, *Generation of animals* 589: ‘*Pneuma*, like *aither*, acts as an intermediary between an immaterial mover and material objects. As we have seen, the unmoved mover moves the Heaven and the heavenly bodies which are made of *aither*, and the heavenly bodies in turn “move” sublunary bodies... So too the immaterial ψυχή moves *pneuma*, and *pneuma* in turn causes ἀλλοίωσις, thereby (i) moving the limbs of the body or (ii) causing the “movement” which is the development of the embryo’. I disagree with Dr Peck only on one point, namely where he believes that *pneuma* itself does not change but brings about change. In my view, *pneuma* itself undergoes change due to the influence of the soul-principle, and then, in a purely physical way, acts on the components of the visible body. This is the crucial point in 7, 701b16. E.S. Forster, *Aristotle, Movement of animals* (London 1937; rev. ed. 1961) also has ‘without causing alteration’ for μη ἀλλοιώσει: ‘without causing alteration’ in 10, 703a25.

⁶⁷ In connection with the doctrine of a limited Providence attributed to Aristotle, see A.P. Bos, ‘Clement of Alexandria on Aristotle’s (cosmo-)theology; (Clem.

Instrumentalism and cybernetic instrumentalism

The term 'instrumentalist psychology', which is used by some authors for the positions of both Plato and Aristotle,⁶⁸ does not seem properly applicable to the position of *De motu animalium*. 'Instrumentalist psychology' is usually taken to involve a conception in which the visible body is presented as the 'instrument of' and as 'guided by' the soul. In *De motu animalium* 10 this is certainly the case, but the 'instrument of the soul' in the proper sense is not the visible body but the fine-material *pneuma*. In the conception of *De motu animalium* the visible body is the *material* on which the soul acts by means of *pneuma* as the instrument of the soul. I believe that the term 'instrumentalism' is more suitable for designating for instance the conception of Ps.-Plato, *Alcibiades I*. To characterize the view of *De motu animalium*, I would prefer the term 'cybernetic instrumentalism'. This will be clarified in what follows.

It is significant in this connection that C. Lefèvre could argue very forcibly against F. Nuyens that the 'hylomorphistic psychology' need not be regarded as incompatible with the 'instrumentalist psychology' and that both conceptions in fact occur in the same writings.⁶⁹

Protr. 5, 66, 4)', *Class. Quart.* 43 (1993) 177-188 and chapter 14 below.

⁶⁸ For Plato, cf. Ps.-Pl. *Alc.* I 129b ff. For Aristotle F. Nuyens (1939) speaks about a phase of 'vitalistic' and 'mechanistic' instrumentalism for the middle period, which starts with Aristotle's *Protrepticus* (48-50; Fr. ed. 56-58).

⁶⁹ C. Lefèvre, *Sur l'évolution d'Aristote en psychologie* (Louvain 1972) 31; 156-173. Lefèvre distinguished on p. 110 between two types of instrumentalist psychology, a type connected with a dualism of body and soul and a later type in which soul and body were viewed hylomorphistically.

CHAPTER FOUR

WHAT BODY IS SUITABLE FOR RECEIVING THE SOUL (*DE ANIMA* I 3, 407b13-26)?

The place of De anima in the Corpus

The previous chapter offered a ‘retrospective’¹ analysis of *De motu animalium*, examining whether the first nine chapters of that work can be understood to anticipate and agree with the important tenth chapter. Now we want to look further back (following the order of works in the Aristotelian Corpus) and focus attention on *De anima*. Again the aim is to examine whether a connection and agreement can be found with *De motu animalium* instead of an irreconcilable opposition.

First we can note that *De anima* in the traditional order of the Corpus forms the transition from the purely physical to the biological works. So far, generally speaking, Aristotle has dealt with the elements of the cosmos and their physical relations. In *De anima* he goes on to discuss the biotic, psychic, and typically human ways of functioning which, in his view, are sharply distinct from the purely physical sphere in that they manifest the presence and operation of the principle of life, the soul.

The didactic order which seems to have been introduced in the Aristotelian Corpus requires that an analysis of *De anima* take its special place in the Corpus into account. This means, first, that the text should be read while realizing that so far only purely physical reality in its structures has been discussed. Next, it means that certain views which are found in the purely physical work may be taken up on a higher, more complete level without this necessarily involving contradictions and without requiring the introduction of hypotheses about ‘developments’ in Aristotle’s thought. Aristotle is to speak about the reality which is more than purely physical, and so he may have to speak about it in a different manner.

¹ For this term, cf. the section on F. Nuyens in chap. 2 above.

I would like to illustrate this with an example from a different part of the Aristotelian Corpus. In the very first work, the *Categories*, Aristotle develops a theory about *ousia*, substance or the independent entity. Much further on in the Corpus, in the *Metaphysics*, Aristotle returns to the subject of *ousia*, but in a much more comprehensive, complex way. Instead of concluding that Aristotle presents two irreconcilable views and that he cannot have held such incompatible theories in the same period,² we may consider that the difference results from the re-examination by Aristotle of a theme on a higher level, after a large stretch has been completed of the way which man, naturally desirous of knowledge, must go. M. Furth has recently advanced ample arguments to support such a view of the *Categories*.³

De anima I 3, 407b13-26

In the first book of the work *De anima* Aristotle discusses a large number of views held by his predecessors. A remarkable detail in his critical comments is found in book I 3, 407b13-26. That text reads:

But there is one absurdity both in this view, and in most theories about the soul. They connect the soul with and place it into a body, without specifying more precisely in their definition why this is so, and what the condition of the body is. And yet this would seem to be necessary. For it is on account of their affinity (κοινωνία) that the one acts and the other is acted upon, that the one moves and the other is moved; and no such mutual relation is found in haphazard combinations. But these thinkers only try to describe the specific characteristics of the soul, without specifying in their definition more precisely

² Thus E. Dupréel, 'Aristote et le Traité des *Catégories*', *A.G.Ph.* 22 (1909) 230-251, who links up with L. Spengel, V. Rose, and C. Prantl. See also S. Mansion, 'La première doctrine de la substance selon Aristote', *R.Ph.L.* 44 (1946) 349-369. W. Jaeger also regarded the *Categories* as spurious, *Aristotle* 46 with n. 3. After the introduction of the genetic method by W. Jaeger, a number of authors have placed the relationship between the *Categories* and the *Metaphysics* in a developmental framework: W.D. Ross (1924); T. Gomperz (1931); P. Merlan (1934); I. Husik (1939); L.M. de Rijk (1952) 73-75; Chung-Hwan Chen (1957); J.L. Ackrill (1963). See also J.J. Duhot, 'L'authenticité des *Catégories*', *Rev. de philos. ancienne* 12 (1994) 109-124.

³ M. Furth, *Substance, form and psyche: an Aristotelean metaphysics* (Cambridge 1988), especially 38 n. 12: 'My belief in the Aristotelean authorship of the *Categories* is indeed based chiefly on the unlikelihood that there should have been a second person having so deep and exact a comprehension of Aristotelean metaphysics as to be able to write an introductory text to it that everywhere comes precisely to the edge of what can be rounded off in a plausible way without toppling off into the depths of the *Metaphysics*—and that we should know nothing else whatsoever about him'.

any details about the body which is to receive it; as though it were possible, as the Pythagorean stories suggest, for any soul to enter into any body. [Which is absurd.] For each seems to have its own specific form and shape. Such a theory is like suggesting that the art of carpentry enters into flutes. However, a craft must use its tools, and a soul its body. (W.S. Hett, with changes).

This text has always been interpreted as expressing a traditional hylomorphic view⁴ in the sense that it discusses the relation of the soul to the visible body. In this chapter I will argue that it actually criticizes such positions and prepares for Aristotle's definition of soul as indissolubly connected with an instrumental body.⁵

The dualism of Plato and the Pythagoreans criticized

Aristotle, who in the preceding section had extensively criticized Plato's *Timaeus*,⁶ now proceeds to criticize the Platonists and the Pythagoreans, and some other philosophers whom he does not mention by name; he blames them for saying that the soul is of a clearly different order than the body which the soul enters, but without being concerned about the required quality of the body with which the soul is connected. Their theory suggests that any soul could enter into any body. The same problem, we are told by Porphyry in his *Vita Plotini*, forced Plotinus to debate with his pupil for three days running⁷. In this part Aristotle also talks about 'Pythagorean myths'. To determine what he is referring to, we first have to think of those

⁴ See for example F. Nuyens (1939) 212-213. Fr. ed. 230-232; E. Barbotin, *Aristote, De l'âme* (Paris 1966) xv-xvi: "Le chapitre se termine sur l'observation que la plupart de ces théories ne rendent aucun compte de l'union de l'âme et du corps; l'auteur prépare ici, pour la développer au livre II, la doctrine de l'âme-forme et du corps-matière, application de la théorie hylémorphique au composé vivant". See however also C. Lefèvre, *Sur l'évolution d'Aristote en psychologie* (Louvain 1972) 184 with n. 72.

⁵ Cf. A.P. Bos, 'Why the soul needs an instrumental body according to Aristotle (*Anim.* I 3, 407b13-26)', *Hermes* 128 (2000) 20-31.

⁶ *Anim.* I 3, 406b26-407b11. This includes criticism of the soul as a self-moving principle of motion and of the confused way in which Plato talks about 'soul' and 'intellect'. In 407b2 Aristotle already pointed out that Plato 'mixes' the World Soul with body without a possibility of 'separation', though the World Soul also possesses functions of the Intellect.

⁷ Porph. *V. Plot.* 13, 10-17: τριῶν γοῦν ἡμερῶν ἐμοῦ Πορφυρίου ἐρωτήσαντος, πῶς ἡ ψυχὴ σύνεστι τῷ σώματι, παρέτεινε ἀποδεικνύς ... It seems likely that Plot. *Enn.* IV 3-5 [27-29] entitled 'Problems concerning the soul' I, II, and III reflect this discussion. They were written in the period that Porphyry associated with Plotinus; cf Porph. *V. Plot.* 4, 66-68 and 5, 1-62.

mentioned by Aristotle in I 2, 404a16-20 who compare the soul to the ever-moving particles of dust in the air. The theory of the soul as *harmonia*, which sees the soul as non-material but as something of a material body⁸, is not discussed until *De anima* I 4. But of course we should also consider that Timaeus, the speaker in Plato's dialogue, was a Pythagorean⁹ and that Simmias and Cebes, with whom Socrates debates in the *Phaedo*, are presented as pupils of the Pythagorean Philolaus, and that Cebes proposed there that the soul wears out a number of bodies as if they were 'cloaks'.

As regards Pythagoras, there is the well-known story that he said to someone who was beating a dog: 'Stop, I recognized the voice of a (deceased) friend'¹⁰.

According to Tatian, Pythagoras had also claimed to be a reincarnation of the soul of Euphorbus¹¹. Clearchus and Dicaearchus had mentioned even more reincarnations of Pythagoras.¹²

Plato, in the myth at the close of his *Republic*, had said that the souls of the dead had to make a new choice from the complete collection of animal and human lives¹³. And he describes how in fact the soul of Orpheus chooses the life of a swan¹⁴, and Thamyras that

⁸ Aristotle may be referring to this in *Anim.* II 2, 414a19-20, where he says: οἷς δοκεῖ μῆτ' ἀνευ σώματος εἶναι μῆτε σῶμά τι ἢ ψυχῇ.

⁹ In *Anim.* I 3, 406b26 Aristotle uses the words: ὁ Τίμαιος φυσιολογεῖ. In I 2, 404b16 he says: Πλάτων ἐν τῷ Τιμαίῳ τὴν ψυχὴν ἐκ τῶν στοιχείων ποιεῖ.

¹⁰ Cf. D.L. VIII 36 = Xenophan. fr. 21 B 7 D.K. See also Porph. V. *Plot.* 19 = fr. 14 A 8a D.K. Cf. W. Burkert, *Lore and science in ancient Pythagoreanism* (Cambridge Ma. 1972) 120-165. Philop. *In De an.* 140, 6-8 refers to Emped. fr. 31 B 117 D.K. It remains unclear why Aristotle talks about 'the Pythagorean myths' here. It is interesting that Plot. *Enn.* IV 8 [6] 1, discussing the theme of the 'descent of the soul' in bodies, puts Heraclitus and Empedocles on a par with Pythagoras, and presents these pre-Socratics together as precursors of Plato. On this presentation, cf. W. Burkert, 'Plotin, Plutarch und die platonisierende Interpretation von Heraklit und Empedocles', J. Mansfeld; L.M. de Rijk (eds), *Kephalaion. Studies ... offered to C.J. de Vogel* (Assen 1975) 137-146; J. Mansfeld, 'Heraclitus, Empedocles and others in a middle platonist cento in Philo of Alexandria', *Vigil. Christ.* 39 (1985) 131-156; D. Zeller, 'The life and death of the soul in Philo of Alexandria. The use and origin of a metaphor', *Studia Philon. Annual* 7 (1995) 19-55.

¹¹ Tatian, *Or.* 28, 1. For Euphorbos cf. Hom. *Il.* XVI 808; 850; XVII 59; 81. Cf. W. Burkert (1975) 139ff., who also mentions K. Kerényi's interesting explanation why Pythagoras had assumed a special relationship with Euphorbus.

¹² Cf. Aulus Gell. *Noct. att.* IV 11, 14; Hipp. *Haer.* I 2, 11; Tert. *Anim.* 28, 3-5; 31, 4.

¹³ Pl. *Resp.* X 618a3-4: ζῶων τε γὰρ πάντων βίους καὶ δὴ καὶ τοὺς ἀνθρωπίνους ἅπαντας.

¹⁴ The only other passage where Plato mentions the swan is *Phd.* 84e-85b, where he explains the 'swansong' with reference to the mantic powers of swans and their foreknowledge of the glories of the hereafter. He also calls them there 'servants of

of a nightingale. But also how a swan chooses the life of a human being. Ajax, on account of the grudge he harbours against human beings, chooses the existence of a lion. Agamemnon prefers to return as an eagle. Atalanta, a woman, returns as a male athlete. The ridiculous figure of Thersites assumes the form of an ape.¹⁵ For Plato, apparently, the body is merely packaging, casing, and covering for the soul.

Plato (and the Pythagoreans and the Orphic poets) did talk a great deal about the quality of the soul, as its goodness or wickedness decides in what setting the soul's vital activity can be continued¹⁶. But according to Plato the body was purely passive, an object of the soul's action. Since the *Phaedrus* Plato had declared that the soul, though incorporeal, is the principle of movement as self-mover¹⁷. That is to say: Plato had attributed to an entity which is not physical in itself because it is non-corporeal, a property (i.e. motion) which Aristotle considers characteristic of physical reality.

Indeed, there does not exist any text by Aristotle in which he discusses incarnation as a serious possibility. Still less do we find texts which leave scope for the return of souls in the bodily form of creatures of a different species. And the doxographical tradition, too, shows no evidence of this, whereas we do find many reports which present a post-mortal existence of the soul as an Aristotelian doctrine¹⁸.

(A) First, therefore, I want to look at the details of the criticism which Aristotle urges against Plato and the Pythagoreans in the text of *De anima* I 3.

Apollo' and 'co-assistants' of Socrates. For the elaboration of this motif, cf. A. Swift Riginos, *Platonica. The anecdotes concerning the life and writings of Plato* (Leiden 1976) 25-31.

¹⁵ Pl. *Resp.* X 620a-d. Vgl. *Phd.* 81e; 113a; *Phdr.* 248d; 249b. R. Hackforth, *Plato's Phaedrus* (Cambridge 1952) 88f., thinks it likely that in a later period Plato was less convinced of reincarnation. Aristotle's text in *Anim.* I 3, which is to be dated after Plato's death, offers little to support this.

¹⁶ This also implies that they mainly focused on normative aspects of human life. This underlies Aristotle's reproach in *Anim.* I 1, 402b4 that all the current psychologies particularly discuss the soul of man: *περὶ τῆς ἀνθρωπίνης* (sc. *ψυχῆς*) *μόνης* *εἰκόασιν ἐπισκοπεῖν*.

¹⁷ Pl. *Phdr.* 245c5-246a2. Criticism of this theory makes up the main part of *Anim.* I 3.

¹⁸ Arist. *Eudem.* fr. 1 Ross; 56 Gigon; 6 Ross; 65 Gigon; Hipp. *Haer.* I 20, 3-4; 6; (Hermias, *Irr.* 3); Philop. *In De anim.* 12, 20. See also chaps. 13 and 14 below. For the sake of completeness, I mention the existence of two texts reporting Aristotle's story that Pythagoras reminded Myllias of Croton that he had been Midas, the son of Gordias the Phrygian; cf. Arist. *Pyth.* fr. 1c and 1e Ross; 172 and 174 Gigon.

(B) Then I want to examine the main arguments underlying this criticism.

(C) Finally, it remains to be seen whether his own theory of the soul satisfies the requirements which he lays down for his predecessors.

The details of Aristotle's criticism

Aristotle formulates his criticism in three different passages which resemble each other. Plato and the Pythagoreans, he says, connect the soul with and place it into a body¹⁹. Aristotle does the same, and so there is no difference here. Aristotle's real objection is formulated three times. I start with the second statement, which is the least complicated one: Plato and the Pythagoreans 'try only to describe the specific characteristics of the soul, without specifying in their definition more precisely any details about the body which is to receive it'²⁰. The third formulation reads: 'without specifying in their definition more precisely in what and what kind of (body), though not just any (body) seems to receive just anything.'²¹. The first of the three statements is more complicated: Plato and the Pythagoreans place the soul in a body 'without specifying more precisely in their definition why this is so and what the condition of the body is'²².

Two things are striking here. First, all three passages use the verb προσδιορίζειν, which seems to have the technical meaning of 'to specify more precisely in a definition'²³. Since Aristotle himself makes

¹⁹ *Anim.* I 3, 407b15: συνάπτουσι γὰρ καὶ τιθέασιν εἰς σῶμα τὴν ψυχὴν. So the text here talks about 'a body', without specification. To represent the position of Plato and the Pythagoreans, Aristotle could also have spoken about 'the body'. For in fact Plato was concerned with the opposition between the incorporeal, invisible and immortal soul and the material, visible, and perishable body.

²⁰ *Anim.* I 3, 407b20-21: οἱ δὲ μόνον ἐπιχειροῦσι λέγειν ποῖον τι ἡ ψυχὴ, περὶ δὲ τοῦ δεξομένου σώματος οὐθὲν ἔτι προσδιορίζουσιν.

²¹ *Anim.* II 2, 414a23-24: οὐθὲν προσδιορίζοντες ἐν τίνι καὶ ποίῳ, καίπερ οὐδὲ φαινομένου τοῦ τυχόντος δέχεσθαι τὸ τυχόν. This formulation is found in the passage where Aristotle returns to the criticism of I 3 and observes that his own definition of the soul formulated in II 1 meets the objections which he had levelled against Plato and the Pythagoreans.

²² *Anim.* I 3, 407b15-16: οὐθὲν προσδιορίσαντες διὰ τίν' αἰτίαν καὶ πῶς ἔχοντος τοῦ σώματος.

²³ Cf. *Arist. Int.* 6, 17a36; 11, 20b29; *Top.* III 6, 120a8. A very interesting text is *Top.* VI 14, 151a20-27: Πάλιν εἰ τὴν τούτων σύνθεσιν εἴρηκε τὸ ὅλον, οἷον τῆς ψυχῆς καὶ τοῦ σώματος σύνθεσιν ζῶον, πρῶτον μὲν σκοπεῖν εἰ μὴ εἴρηκε ποία σύνθεσις, καθάπερ εἰ σάρκα ὀριζόμενος ἢ ὅστων τὴν πυρὸς καὶ γῆς καὶ ἄερος εἶπε σύνθεσιν. οὐ

rather an effort in *De anima* II 1 to give as general and complete a definition of 'soul' as possible²⁴, we can ask whether his method is significantly different from that of his opponents.

Second, it is not quite clear at first sight what Aristotle means by the words 'why this is so' (διὰ τίν' αἰτίαν) in 407b16. This might mean that Aristotle blames the Pythagoreans and Plato for failing to discuss why the soul is given an existence in a material body. But it could also mean: '*why a soul needs a body*'. Of course, it would be patently wrong to assert that Plato failed to say why the soul is housed in an earthly body. Though he was not explicit about this in the *Phaedo* and merely referred to 'secret traditions' about the human soul being placed in 'custody'²⁵, the myth of the *Phaedrus* explains quite clearly that this is because the soul has lost its wings and therefore has not enjoyed the contemplation of true Being²⁶. And Pythagoreans of the old style or Pythagorizing members of the Old Academy like Xenocrates also referred to the 'guilt' borne by souls, so that, like the Titans once, they must do penance and be purified.

In this regard, too, Aristotle seems to have followed the tradition, since he calls man's earthly existence a 'penance' (τιμωρία)²⁷. So we should consider that Aristotle's remark about the Platonists and Pythagoreans who 'did not specify more precisely in their definition why this is so' may mean that they said nothing about the question *why the soul needs a body*²⁸. For although Aristotle, like Plato, believes that the soul moves the body and that the body is moved by the soul²⁹, there is this essential difference: Aristotle sees the soul not as a self-mover but as an unmoved mover.

γὰρ ἀπόχρη τὸ σύνθεσιν εἰπεῖν, ἀλλὰ καὶ ποία τις προσδιοριστέον· οὐ γὰρ ὅπως οὖν συντεθέντων τούτων σὰρξ γίνεται, ἀλλ' οὕτως μὲν συντεθέντων σὰρξ, οὕτως δ' ὁσούτων. The underlying idea here, if only implicit, is that the soul is the *logos* which controls the process of generation of the visible body's parts, which are produced by vital heat. See also *Metaph.* Γ 3, 1005b21; 27; *Part. anim.* II 2, 649b1.

²⁴ Cf. *Anim.* II 1, 412a5: πειρώμενοι διορίσαι τί ἐστι ψυχὴ καὶ τίς ἂν εἴη κοινότατος λόγος αὐτῆς. b4; b10; 413a9: διωρίσθω. Earlier I 1, 402b5. Cf. also *Sens.* I, 436a1: διώρισται πρότερον.

²⁵ Pl. *Phd.* 61d-62c.

²⁶ Pl. *Phdr.* 246c2-6; 248a1-249b6.

²⁷ *Eudem.* fr. 6 Ross; 65 Gigon. Cf. also *Protr.* 10b Ross; 73 and 823 Gigon and chapters 13 and 16 below.

²⁸ Cf. *Gener. anim.* II 4, 741a4: ἐν δὲ τοῖς ζώοις ... προσδεῖται τὸ θῆλυ τοῦ ἄρρενος. Καίτοι τις ἀπορήσειεν ἂν διὰ τίν' αἰτίαν.

²⁹ *Anim.* I 3, 407b18: τὸ μὲν κινεῖται τὸ δὲ κινεῖ. Cf. Pl. *Phdr.* 245c5-d7.

The arguments underlying Aristotle's criticism

This brings us to the crucial difference between Aristotle's and Plato's doctrines of the soul. For Aristotle the soul is an *eidos*³⁰ and an *ἐντελέχεια*³¹. But as such it is not a body. And so the soul itself does not possess motion, for motion is a property of natural bodies³². The soul is a principle of motion, says Aristotle, but without being in motion itself. Clearly, Aristotle cannot say that the soul as formal principle causes movement in and acts on the visible body, which then is set in motion and undergoes this action. This is out of the question, given Aristotle's fundamentally different points of departure. Aristotle has to come up with something new here, because his own inquiry into the natural sphere has led him to understand that movement is proper only to bodies and not to the soul. He must convincingly explain how physical movement can be caused by an entity which is not in motion itself³³.

In this connection it is important to draw attention to Aristotle's claim that it is necessary to talk about the *koinōnia*³⁴ between the soul and the body in which it is placed. At first sight this is surprising, since it is unlikely that Plato or the Pythagoreans would be inclined to speak about an 'affinity' between the soul and the body in which the soul is to be housed. After all, man does not have any 'affinity' with his 'grave' or his 'prison'. Yet Aristotle has no qualms about saying that without an 'affinity' between the soul and the soul's body

³⁰ *Anim.* II 1, 412a20. This view is also attested for *Eudem.* fr. 7 Ross; 59 Gigon, though many interpreters, following W. Jaeger, *Aristotle* 45-47, have taken εἶδει τι in this text to mean 'an Idea or something of the nature of an Idea' in a Platonistic sense. However, it would be equally possible to take that expression in the sense of 'a kind of *eidos*', that is: an ἔνυλον εἶδος. This is also said in D.L. V 33: λέγει δ' ἐντελέχειαν, ἥς ἐστὶν εἶδος τι ἀσώματον, in a passage explaining Aristotle's definition of the soul. Cf. J.M. Rist, *The mind of Aristotle* (Toronto 1989) 46-47.

³¹ *Anim.* II 1, 412a21-22; 412b5.

³² Cf. *Cael.* I 9, 279a15: κίνησις δ' ἄνευ φυσικοῦ σώματος οὐκ ἔστιν.

³³ This point was lucidly made by J.M. Rist (1985) 28: 'Since the soul is form, and in a sense immaterial— ... —how can an immaterial soul effect, or, in Aristotle's language "move" a material body?' M. Canto-Sperber, 'Mouvement des animaux et motivation humaine dans le livre III du *De anima* d'Aristote', *Études philosophiques* (1997) 59-96 stresses this aspect of 'la polémique avec la pensée socratique-platonicienne' (74). See also R. Bodeüs, "Du troisième genre au cinquième corps. Notes sur la critique du <<Timée>> de Platon dans le premier livre du traité <<De l'âme>> d'Aristote", *R.Ph.F.* 118 (1993) 239-262.

³⁴ The dissertation by P.J.T. Endenburg, *Koinoonia en gemeenschap van zaken bij de Grieken in den klassieken tijd* (Amsterdam 1937) is not very useful for clarifying this notion because of its legal approach.

it is impossible for the soul to bring about activity and the body to undergo this activity and the soul to set in motion and the soul-body to be set in motion³⁵. And he even adds that it is not just any body which meets this requirement of 'affinity' with the soul³⁶.

But he can also speak about the visible body of a living creature as a 'corpse', if it is considered without the presence of the soul³⁷. On the other hand, he says in *De generatione animalium* that the *dynamis* of every soul has something of 'another and more divine body than the so-called elements'. This more divine body is 'enclosed' by *pneuma* and makes up its essence³⁸. This means that *pneuma*, which is itself enclosed by the seminal fluid, is the cause of generation and motion, and through it the parts of the developing creature are produced.³⁹

Elsewhere Aristotle also says that interaction is not possible between random entities, but only between what is the same and identical as regards genus but different and opposite as regards species⁴⁰. Thus he can posit in *De generatione animalium* that the female of a species of living creatures needs *koinônia* with a male for reproduction⁴¹. And he clarifies this by postulating that something which undergoes an action must potentially be that which acts upon it⁴².

³⁵ *Anim.* I 3, 407b17-19: διὰ γὰρ τὴν κοινωνίαν τὸ μὲν ποιεῖ τὸ δὲ πάσχει καὶ τὸ μὲν κινεῖται τὸ δὲ κινεῖ, τούτων δ' οὐθὲν ὑπάρχει πρὸς ἄλληλα τοῖς τυχοῦσιν. *Anim.* III 4, 429b25: ἥ γὰρ τι κοινὸν ἀμφοῖν ὑπάρχει, τὸ μὲν ποιεῖν δοκεῖ τὸ δὲ πάσχειν and b29-30. In *Motu anim.* 8, 702a20 Aristotle formulates the same idea as follows: διὰ τὸ τὸ ποιητικὸν καὶ παθητικὸν τῶν πρὸς ἄλληλα εἶναι τὴν φύσιν (Nussbaum). This is clarified in 10, 703a11-14: (τὸ σύμφυτον πνεῦμα) πρὸς τὴν ἀρχὴν τὴν ψυχικὴν ὅμοιως ἔχειν ὥσπερ τὸ ἐν ταῖς καμπαῖς σημεῖον, τὸ κινεῖ καὶ κινούμενον, πρὸς τὸ ἀκίνητον. Cf. F. Nuyens (1939) 213: 'If the body is the instrument of the soul, it must be a useful instrument and not just any instrument'. But on the same page Nuyens suggests that Aristotle in reality means: the matter of which the body consists must be suitable for the soul. He cannot mean that the body is the instrument of the soul!

³⁶ He repeats this in II 2, 414a23-24. The idea is intriguingly elaborated in *Corp. Herm.* X 17: ἀδύνατον γὰρ τὸν νοῦν ἐν γήινῳ σώματι γυμνὸν αὐτὸν καθ' ἑαυτὸν ἐδράσαι· οὔτε γὰρ τὸ γήινον σῶμα δυνατόν ἐστι τὴν τηλικαύτην ἀθανασίαν ἐνεργεῖν... ἔλαβεν οὖν ὥσπερ περιβόλαιον τὴν ψυχὴν, ἥ δὲ ψυχὴ καὶ αὐτὴ θεία τις οὖσα καθάπερ ὑπηρετὴ τῷ πνεύματι χρῆται· τὸ δὲ πνεῦμα τὸ ζῶον διοικεῖ.

³⁷ Cf. *Gener. anim.* II 5, 741a10-13.

³⁸ *Gener. anim.* II 3, 736b29-31: Πάσης μὲν οὖν ψυχῆς δύναμις ἐτέρου σώματος ἔοικε κεκοινωνηκέναι καὶ θειοτέρου τῶν καλουμένων στοιχείων and following. On this text, cf. chapter 8.

³⁹ *Gener. anim.* II 1, 733b32: ὑφ' οὗ.

⁴⁰ *Gener. corr.* I 7, 323b29-33: 'Ἄλλ' ἐπεὶ οὐ τὸ τυχὸν πέφυκε πάσχειν καὶ ποιεῖν ἀλλ' ὅσα ἢ ἐναντία ἐστὶν ἢ ἐναντίωσιν ἔχει, ἀνάγκη καὶ τὸ ποιοῦν καὶ τὸ πάσχον τῷ γένει μὲν ὅμοιον εἶναι καὶ ταυτό, τῷ δ' εἶδει ἀνόμοιον καὶ ἐναντίον (Mugler).

⁴¹ *Gener. anim.* II 5, 741a28.

⁴² *Part. anim.* II 1, 647a8: πάσχει δὲ τὸ δυνάμει ὄν ὑπὸ τοῦ ἐνεργεῖα ὄντος, ὥστ'

But in what respect could the soul-body potentially be that which the soul actually is? This becomes clear only when we consult *De motu animalium* 8. This text also states that the active and the passive have the kind of nature which has already been explained in many places, and that when the active and the passive occur in combination, the action of the one directly has the matching effect on the other⁴³. Aristotle provides the following example: 'Hence, practically at the same time as someone thinks that he should walk, he walks, unless something else prevents it. For the qualities condition fittingly the instrumental parts, desire conditions the qualities, and imagination the desire. And imagination results from intellectual activity or perception'⁴⁴. That is to say that the concrete individual's activity of walking is seen as resulting from the action of that which is actually desirable (διωκτόν) on that which has the potentiality to strive after it (διώκειν), or is a vehicle of desire (*orexis*). *Orexis* activates certain qualities of the body that is the vehicle of *orexis*, such as an increase or decrease in heat and consequently expansion or contraction. These qualities then have a physical effect on the instrumental parts of the visible body. Whereas intellectual activity and perception are matters of the soul, as the place where the Forms of the percepts or of the objects of thought are located, desire is not in the soul but in a body which has a special affinity with the soul as the vehicle of desires that functions as the soul's instrument to set the visible body in motion. This is said in as many words in chap. 10 of *De motu animalium*⁴⁵. But it is also clearly the theory of *De anima* III 10, where Aristotle says:

ἔστι τὸ αὐτὸ τῷ γένει.

⁴³ *Motu anim.* 8, 702a11-15. Cf. *Long.* 3, 465b15-16 and M.C. Nussbaum (1978) 357.

⁴⁴ *Motu anim.* 8, 702a15-19: διὰ τοῦτο δ' ἅμα ὡς εἰπεῖν νοεῖ ὅτι πορευτέον καὶ πορεύεται, ἂν μὴ τι ἐμποδίζῃ ἕτερον. τὰ μὲν γὰρ ὀργανικὰ μέρη παρασκευάζει ἐπιτηδεῖως τὰ πάθη, ἡ δ' ὄρεξις τὰ πάθη, τὴν δ' ὄρεξιν ἡ φαντασία· αὕτη δὲ γίνεται ἢ διὰ νοήσεως ἢ δι' αἰσθήσεως. Cf. chap. 3 above. In *Anim.* I 3, 406b24 Aristotle had already said: "Ὁλως δ' οὐχ οὕτω φαίνεται κινεῖν ἡ ψυχὴ τὸ ζῶον, ἀλλὰ διὰ προαιρέσεώς τινος καὶ νοήσεως.

⁴⁵ *Motu anim.* 10, 703a4-6: Κατὰ μὲν οὖν τὸν λόγον τὸν λέγοντα τὴν αἰτίαν τῆς κινήσεως ἐστὶν ἡ ὄρεξις τὸ μέσον, ὃ κινεῖ κινούμενον· ἐν δὲ τοῖς ἐμψύχοις σώμασι δεῖ τι εἶναι σῶμα τοιοῦτον. This body is called ὄργανον in 10, 703a20. This special body is introduced by Aristotle as a connective 'middle term' which bridges the gap between soul-principle and visible body. That is to say, he cancels the absence of 'communality' (*koinōnia*) between incorporeal soul-principle and visible, material body by assuming a 'communality' between the incorporeal soul-principle and special, fine-material, psychically characterized body which, in its turn, has a physical 'communality' with the bodies which make up the parts of the visible body.

'But the **instrument** by which desire causes movement is somatic'⁴⁶. This means: in *De anima*, too, psychic desire does not act directly on the visible body, but on another body, namely one that is the vehicle of desire and is instrumental to the soul in causing movement (of the parts) of the visible body.

*Does Aristotle himself meet the requirements which
he lays down for his predecessors?*

We shall now have to see whether Aristotle himself fulfils the conditions which he lays down for his predecessors in *De anima* I 3 and which led him to disqualify their views. To what extent Aristotle himself explained the soul's need of a body and did he 'specify more precisely in his definition' the kind of body in which the soul is placed and with which it is connected, and did he demonstrate a special affinity between the soul and the body in which it takes up residence?

As for the first question, in the sequel of our passage Aristotle makes perfectly clear that the soul needs an instrumental body just as a craft needs tools. So the body which the soul enters is an 'instrumental body'. And in *De anima* II 1 he develops step by step his own definition of the soul. Three steps can be distinguished, namely (1) 412a19-21; (2) 412a27, and (3) 412b5. We find there three specifications of the body with which the soul is connected: it must be 'natural', 'potentially possess life', and be 'ὀργανικόν'. However, in the interpretation that became dominant from Alexander of Aphrodisias onwards these specifications have always been seen as characteristics of the visible body, which is called 'organic' or 'provided with organs'. But this traditional view must be rejected as untenable. If this had been Aristotle's intention, his criticism of Plato and the Pythagoreans in I 3 would have no substantial basis. And in that case he would have completely failed to explain the κοινωνία between the soul and the body and how movement of the bodily parts is brought about by the soul.

⁴⁶ *Anim.* III 10, 433b19: ὃ δὲ κινεῖ ὄργανον ἢ ὄρεξις, ἤδη τοῦτο σωματικόν ἐστιν. This is anticipated in I 3, 406b24: ὅλως δ' οὐχ οὕτω φαίνεται κινεῖν ἢ ψυχὴ τὸ ζῷον, ἀλλὰ διὰ προαιρέσεώς τινος καὶ νοήσεως. The same distinction of τὸ κινεῖν καὶ κινούμενον and τὸ κινεῖν μόνον is applied by Aristotle to the nutritional process in *Anim.* II 4, 416b25-29. There τὸ κινεῖν μόνον is again ἡ (πρωτὴ) ψυχὴ, but τὸ κινεῖν καὶ κινούμενον is τὸ (ἐμφυτον) θερμόν.

The conclusion must therefore be: the definition developed by Aristotle in *De anima* II 1 is not a definition which specifies the quality of the visible body but is a definition of the soul as the first entelechy of the very special soul-body which is defined more precisely as a natural body that potentially possesses life and is instrument to the soul⁴⁷. And this soul-body is instrument to the soul inasmuch as it is the vehicle of desires and through its own physical aspects acts on the different components of the visible body. Moreover, it is the vehicle of vital heat, which makes possible the digestive process and growth.

A crucial dilemma

The term which Aristotle uses in the analyzed passage for the soul's 'taking up residence' in the body (ἐνδύεσθαι εἰς) may readily call forth an association with 'wrapping oneself in a cloak'. For experts on the debate over the soul, Aristotle may thus have alluded recognizably to the passage in Plato's *Phaedo* where the Pythagorean (!) Cebes, a pupil of Philolaus⁴⁸, uses the image of the soul as a weaver of bodies, which wears out many bodies as its cloak, until it is worn out itself and the last cloak 'survives' the weaver⁴⁹. We shall also have to consider that the discussion had progressed since Plato's *Phaedo* and Plato himself had led the way to a further abstraction, in the sense of a distinction between the intellect as highest, transcendently oriented function and the lower soul-parts or soul-functions. For Aristotle, as an expert on these later discussions in the Academy, the soul is primarily the vehicle of the psychic vital functions of perception, imagination, and emotion, and of the biotic functions of digestion and growth, and has become an entity which mediates between the intellect and the visible body. The problem he has to solve now, we might consider, is how the intellect that comes 'from outside'⁵⁰ can, as a potency of the soul, form part of a material body. Conceivably, it

⁴⁷ I will discuss this in more detail in chap. 5.

⁴⁸ Pl. *Phd.* 61d; e.

⁴⁹ Pl. *Phd.* 86e-88b. Shortly before, Socrates had spoken about the liability that people who have indulged in animal passions will reincarnate as animals, 81e: εἰς τὰ τῶν ὄντων γένη καὶ τῶν τοιούτων θηρίων εἰκὸς ἐνδύεσθαι. Cf. *Resp.* X 620c2-3: τὴν τοῦ γελοιοποιῶντος Θερασίτου πίθηκον ἐνδυομένην. (The figure of Thersites also seems to have been cited by Aristotle in *Eudem.* fr. 7 Ross; 59 Gigon.) Philop. *In De an.* 140, 25ff. wrongly believes that Plato is not one of Aristotle's targets here.

⁵⁰ *Gener. anim.* II 3, 736b27-29. I will enlarge on this problem in chap. 11.

was therefore Aristotle who introduced the notion of an astral soul-stuff as the covering of the *nous*.⁵¹ In doing so he could link up with the striking remarks in Plato's *Timaeus*, where the Demiurge orders the astral gods: 'You must do the rest and weave together the mortal part and the immortal part and thus produce and generate living creatures and give them food to make them grow, and when they perish, receive them again.'⁵²

An argument added by Aristotle to his proposition that not just any soul can enter into any body reads: 'For each seems to have a specific form of its own'⁵³. Here again Aristotle's intentions are not clear at first sight. In the first place it is not easy to decide in what way the word 'For' connects the preceding sentence with the following one. Secondly, we have to determine what body is meant by the word 'each'. At least we may suppose that 'each' in the parallel passage in *Anim.* II 2, 414a21-28⁵⁴ should be taken in the same sense as here in I 3.

But this does not yet solve the problems. Two totally different interpretations are possible. 'Each (body)' can be taken as (A) 'each body in general' (this line is followed in the usual explanations) or as (B) 'each body that receives a soul', i.e. 'each body that is an instrumental body for the soul'. I will try to clarify these two positions by paraphrasing them.

(A) Aristotle reproaches his opponents with failing to give a further definitional specification of the body which receives the soul. It therefore seems to be the same as in some Pythagorean fantastic tales, namely that just any soul takes up residence in just any body.

⁵¹ In *Gener. anim.* II 3, 736b36 Aristotle uses the term ἐμπεριλαμβανόμενον to designate the 'reception' of the soul-principle in *pneuma*. In III 11, 762a18-32 he uses this term or variants of it six times in his explanation of the 'spontaneous generation of life'. See chap. 8.

⁵² Pl. *Tim.* 41d1-3: τὸ δὲ λοιπὸν ὑμεῖς, ἀθανάτω θνητὸν προσυφαίνοντες, ἀπεργάζεσθε ζωὰ καὶ γεννᾶτε τροφήν τε διδόντες αὐξάνετε καὶ φθίνοντα πάλιν δέχεσθε. I note in passing that for Plato the immortal part of the soul of perishable beings is therefore of the same essence as the astral souls. The celestial gods are also presented here as causing the processes of nutrition, growth, and contraction in mortal beings. Cf. C. Lefèvre, "Quinta natura" et psychologie aristotélicienne', *R.Ph.L.* 69 (1971) 9. Cf. P. Boyancé, 'Dieu cosmique et dualisme. Les archontes et Platon', U. Bianchi (ed.) *Le origini dello Gnosticismo* (Leiden 1967) 340-356, pp. 344ff.

⁵³ *Anim.* I 3, 407b23: δοκεῖ γὰρ ἕκαστον ἴδιον ἔχειν εἶδος καὶ μορφήν.

⁵⁴ *Anim.* II 2, 414a25-27: ἐκάστου γὰρ ἡ ἐντελέχεια ἐν τῷ δυνάμει ὑπάρχοντι καὶ τῇ οἰκείᾳ ὕλῃ πέφυκεν ἐγγίνεσθαι. I will return to this passage in chap. 5.

Pythagorean anthropology exclusively involves a soul and a visible body. Option (A), which is followed in the usual explanations, is that Aristotle is saying in I 3, 407b23: 'each *visible* body seems to have its own form and shape'. 'For' seems causal in the sense that Aristotle means: the Pythagorean myths connect just any soul with just any (visible) body, for each visible body has its own form and shape, but this does not play any role in the Pythagorean tales. That is to say, 'For' explains 'just any body' (τὸ τυχόν) in 407b23.

(B) There is another option, which offers itself as a serious possibility to the reader who takes account of the following: Aristotle is distancing himself from Platonists and Pythagoreans by drawing attention to 'the body that is to receive the soul' (407b21); he explains that the soul uses this body in the same way that *technè* uses its instruments (407b25-26); and he ascribes to the soul an 'instrumental body' of which the incorporeal soul is the *eidos*. Aristotle may thus be developing the following train of thought: Platonists and Pythagoreans do not offer a further definitional specification of the body which is to receive the soul. Thus it is as in the Pythagorean fantastic tales, that just any soul takes up residence in just any body. [But the fact that they do not give a further definitional specification of the body that is to receive the soul is reprehensible, for it is impossible that just any body can receive just any soul.] For each body that serves as a soul-receiving body has its own form and shape.

The interpretation of the last three lines of our chapter seems to depend on the choice which we have made in 407b23 in favour of interpretation (A) or (B). Indeed, the interpretation changes radically depending on whether we choose (A) or (B).

I will first follow the train of thought in interpretation (A), which is the standard in modern literature, and look at its consequences. In his own positive theory of *De anima* II 1, Aristotle argues that *ousia* may be spoken of in three different ways; one of these is '*ousia* as specific form', and the soul is *ousia* in this sense, that is to say, the shape and form of a 'natural body which potentially possesses life'.⁵⁵ If this is to be taken as the form of the visible body, we again have to emphasize the difference to Plato's theory. In his *Phaedrus* Plato had said: 'All soul has the care of that which is soulless, and it traverses

⁵⁵ *Anim.* II 1, 412a6-21.

the entire heaven, sometimes in these forms and sometimes in those'⁵⁶. This may suggest that these 'forms' are proper to the bodies in which the souls are lodged, and that souls are only the principle of motion and of life for these bodies. In this Platonic theory the form of a horse's body is an imitation of the Idea of Horse, but Plato does not say anywhere that the soul effects this imitation of an Idea in the body⁵⁷. This is, however, just what Aristotle is concerned with. In his view, the soul is the principle of the specific form of individual living creatures. It is the blueprint for the specific form of the living creature to be realized. That is also why the soul of a horse never produces anything but a foal in the reproductive process. The souls of living creatures do not just 'come out of thin air', but life and soul are passed on in the 're-productive' process. Against the background of this view of Aristotle, his criticism might seem to become understandable. Each specimen of a species of living creatures seems to possess a specific form of its own. This specific form as distinct from others is not explained in the Platonic theory, which allows any soul to live in any body⁵⁸. But to produce the visible body of the horse, according to Aristotle, the soul needs an instrumental body.

We can add that Aristotle sees the contribution of the female in the reproductive process as the matter which is actively operated upon by the *dynamis* of the soul present in the *pneuma* of the male's sperm. Aristotle also says that this contribution of the female is potentially a body of the same species. Thus he can explain in *De generatione animalium* that the vegetative soul shapes the form of the individual specimen 'while it uses heat and cold as instruments'⁵⁹.

⁵⁶ Pl. *Phdr.* 246b6: ψυχὴ πᾶσα παντὸς ἐπιμελεῖται τοῦ ἀψύχου, πάντα δὲ οὐρανὸν περιπολεῖ, ἄλλοι δ' ἐν ἄλλοις εἶδεσι γιγνομένη.

⁵⁷ Cf. *Gener. corr.* I 2, 315a29-32: Πλάτων μὲν οὖν μόνον περὶ γενέσεως ἐσκέψατο καὶ φθορᾶς, ὅπως ὑπάρχει τοῖς πράγμασι, καὶ περὶ γενέσεως οὐ πάσης ἀλλὰ τῆς τῶν στοιχείων· πῶς δὲ σάρκες ἢ ὅσα ἢ τῶν ἄλλων τι τῶν τοιούτων, οὐδέν. C. Mugler, *Aristote, De la génération et de la corruption* (Paris 1966) 77 objects that Pl. *Tim.* 73bff. does talk about the composition of the spinal cord. But this does not affect Aristotle's criticism. I will return later to his criticism that Plato neglects an 'efficient cause'.

⁵⁸ See the relevant remark in I 1, 402b5-8, where it is asked whether a soul is the soul of a 'living creature' or of a horse, a dog, a man, or a god. Aristotle replies to this by including the notion of *entelecheia* in his definition of the soul. The soul is the form of the species, not of a genus. And a correlation is found to exist between the quality of life of a living entity and the quality of the vehicle of vital heat—cf. *Gener. anim.* II 3, 736b30-737a1 and chapter 8 below.

⁵⁹ *Gener. anim.* II 4, 740b31: χρωμένη οἷον ὀργάνοις θερμότητι καὶ ψυχρότητι. For the background to Aristotle's remarks about this vital heat, we must return to II 3, 736b27-737a7.

These instruments ensure that each part is formed according to a set and distinct formula. This is not just a random process (as Empedocles had suggested⁶⁰) but one which is directed and controlled in every respect by the soul⁶¹.

Carpentry and its instruments

We must now examine what the point of the final passage would be if Aristotle had wanted to emphasize in 407b23-24 that every visible body has its own specific *eidos*. The disputed view of the Platonists and Pythagoreans, says Aristotle, is just as strange as the claim that 'the art of carpentry enters (is incarnated in) flutes'⁶². But in reality 'a craft must use its instruments and', as Aristotle concludes: 'the soul its body'⁶³.

Again the meaning of this final critical remark in I 3, 407b24-27 is not immediately clear. Flutes are instruments used by flute-players, not carpenters. But flute-players do not make flutes. That is what carpenters do⁶⁴. As things stand, we have to confront the question:

(a) Is Aristotle making the point that it is absurd to claim that carpentry 'enters' flutes (i.e. uses flutes to practise its art), whereas it is correct to say that the flute-player's art 'enters' flutes and carpentry 'enters' hammer, drill, and chisel⁶⁵? And so is he positively saying that

⁶⁰ Cf. *Part. anim.* I 1, 640a20-23.

⁶¹ Cf. *Gener. anim.* II 6, 743a18-27.

⁶² *Anim.* I 3, 407b24: Παραπλήσιον δὲ λέγουσιν ὥσπερ εἴ τις φαίη τὴν τεκτονικὴν εἰς αὐλοὺς ἐνδύεσθαι.

⁶³ *Anim.* I 3, 407b25: δεῖ γὰρ τὴν μὲν τέχνην χρῆσθαι τοῖς ὀργάνοις, τὴν δὲ ψυχὴν τῷ σώματι. The way in which G. Rodier vol. II 117-118 glosses over this text is characteristic: 'Il ne faudrait pas, d'ailleurs, attribuer à la comparaison d'Aristote plus d'importance qu'elle en a. En confirmant que l'art du charpentier a besoin d'outils appropriés et ne peut pas descendre dans des flûtes, il veut dire seulement que, d'une manière générale, une forme ne peut se réaliser que dans une matière déterminée, et non que le corps soit, à proprement parler, l'instrument de l'âme'. In turn, Nuyens refers to this analysis to avoid the conclusion that *Anim.* I 3 supports an instrumentalistic interpretation (1939, p. 213; Fr. ed. 232). Another remark which characterizes the traditional explanation of this passage is F. Solmsen, *Mus. Helv.* 18 (1961) 170: 'On the whole Aristotle thinks of soul and its parts as acting in cooperation with the bodily organs'. Cf. C. Lefèvre, *Sur l'évolution d'Aristote en psychologie* 148 n. 72.

⁶⁴ The art of τεκτονική is not only the art of 'building' as W. Theiler (1959) 15 and H. Seidl (1995) 35 take it. It can mean all of a carpenter's activities. Cf. *Gener. anim.* I 21, 729b16; II 6, 743a25; *Pol.* III 11, 1282a22.

⁶⁵ This is the opinion of Philop. *In De An.* 140, 11-13 and of R.D. Hicks (1907) 262-263. Likewise M. Danieli, *Zum Problem der Traditionsaneignung bei Aristoteles*.

the soul of a human being enters a human body and the soul of a horse a horse's body to use it as its instrument?

(b) Or does he mean something more complicated? Does he see the 'flutes' as the product of carpentry⁶⁶ and does he present the carpenter here as a 'flute-maker'⁶⁷?

In that case it would be properly Aristotelian to ask about the material cause of the flute. This cause is a block of wood. Then we could ask: what is the formal cause of the flute? According to Aristotle, this is the craft in the soul of the carpenter⁶⁸. Next, there would be the question of how this form is applied to the wood. The carpenter is designated as the efficient cause of this. Finally, the flute-playing of a flute-player is the final cause of the flute. To this extent knowledge of flute-playing will also give the carpenter important indications about the most perfect form of the flute⁶⁹.

Now there remain two possibilities.

(a) Either Aristotle is saying: carpentry does not 'enter' flutes, for it cannot use them; but it does 'enter' hammer, plane, and chisel; and the art of flute-playing 'enters' flutes⁷⁰.

(b) Or Aristotle means: if carpentry produces a flute, the form of the flute does not 'enter' this concrete flute by itself. That requires the tooling of a piece of wood with the help of instruments under the supervision of the carpenter's craft.

In both cases Aristotle is saying that the soul uses the body which receives it, *as an instrument*. But does he mean that a human soul cannot use the body of a horse as an instrument, just as the art of flute-playing cannot play a saw, because a horse's body goes with a specific form differing from the specific form of a human body? A serious objection to this explanation is that Aristotle argues emphatically in *De generatione animalium* that the sperm does not pass down a

Untersucht am Beispiel von 'De anima' I (Königstein 1984) 59 with n. 101. The article by C. Viano, 'La doxographie du *De anima* (I 2-5)' in ead. *Corps et âme* (Paris 1996) 51-79 yields little for our text.

⁶⁶ Cf. *Metaph.* A 6, 1071b29-31: οὐ γὰρ ἡ γε ὕλη κινήσει αὐτὴ ἐαυτήν, ἀλλὰ τεκτονική, οὐδὲ τὰ ἐπιμήνια οὐδ' ἡ γῆ, ἀλλὰ τὰ σπέρματα καὶ ἡ γονή.

⁶⁷ Cf. *Pol.* III 4, 1277b29 for the distinction between an αὐλοποιός and an αὐλητής.

⁶⁸ *Metaph.* Z 7, 1032a32-b14; b23; *Gener. anim.* I 22, 730b15.

⁶⁹ Cf. *Phys.* II 2, 194b1-7 for the distinction between the carpenter who makes a helm and the helmsman who uses the helm and prescribes what the helm should be like. *Pol.* III 11, 1282a22.

⁷⁰ Thus W.K.C. Guthrie, *A history of Greek philosophy* vol. VI (Cambridge 1981) 281: 'For just as the craft must employ the right tools, so the soul must employ the right body'.

kind of *homunculus* but only the form of the new living creature. At the moment of fertilization there is no question yet of a human body or a horse's body. Nor, therefore, of a specific 'adaptedness' of the body to the soul. However, this adaptedness was precisely characteristic of the 'communality' (*koinônia*) between the soul-principle and the body that receives it.

We will therefore have to conclude, if we interpret 'each' in 407b23-24 as 'each visible body', that Aristotle is saying in 407b24-26 that the (incorporeal) soul as the formal principle of a man can only result in a concrete living man if it enters an instrumental body by means of which the soul is able to produce a visible, concrete human body with its own specific form. This last interpretation seems to be strongly supported by the discussion in *De generatione animalium* I 22, where Aristotle says:

no material part comes from the carpenter to the material, i.e. the wood in which he works, nor does any part of the carpenter's art exist within what he makes, but the shape and the form are imparted from him to the material by means of the motion he sets up. It is his hands that move his tools, his tools that move the material; it is his knowledge of his art, and his soul, in which is the form, that move his hands ... In like manner the nature which is present in a male specimen (of living creatures which produce semen) uses the semen as an instrument which possesses motion in actuality, just as instruments are moved in the case of products of craftsmanship⁷¹ (transl. J. Barnes, with changes).

Equally relevant to our text is *De partibus animalium* II 7, 652b7sq. where the view that the soul is identical with fire or some such substance is rejected as being crude. 'It might be better to say that the soul subsists in some substance of a fiery character'⁷². The reason for this is that heat is the most suitable of all bodies for serving the soul's activities. For nutrition and setting in motion are the work of the soul, and these are most readily effected by this *dynamis* [of heat].

⁷¹ *Gener. anim.* I 22, 730b10-32, especially b19-22: ὁμοίως δὲ καὶ ἡ φύσις ἡ ἐν τῷ ἄρρени τῶν σπέρμα προιεμένων χρήται τῷ σπέρματι ὡς ὄργανῳ καὶ ἔχοντι κίνησιν ἐνεργείᾳ, ὥσπερ ἐν τοῖς κατὰ τέχνην γιγνομένοις τὰ ὄργανα κινεῖται· ἐν ἐκείνοις γὰρ πῶς ἡ κίνησις τῆς τέχνης. Cf. I 18, 723b27-32; I 21, 729b1-21; II 6, 743a17-36.

⁷² So here, and in the next line speaking about 'all bodies', Aristotle is not concerned with the visible body ('equipped with organs') of a concrete living creature, but with a 'natural body that serves the soul as an *organon*', precisely with a view to 'feeding' and 'moving' the visible body. In the same way, he had discussed Democritus' soul-atoms, whose motion sets in motion the entire visible body (τὸ σῶμα πᾶν); see I 3, 406b19-21.

To say that the soul is identical with fire is like saying that the carpenter or the carpenter's craft is identical with the saw or the drill' (transl. J. Barnes).⁷³

The term ἐνδύεσθαι, too, in this train of thought, suggests that Aristotle is primarily thinking of a production process and not a process of use. The term indicates a 'taking up residence in', which results in a permanent situation of 'being present in'. Carpentry can be said to have taken up residence in the wood of the flute it has produced. The art of flute-playing cannot so easily be said to have 'taken up residence' in the matter of the flute whenever it uses the flute.⁷⁴

My conclusion therefore is that, if we follow option (A) of the interpretations of 407b23-24, Aristotle accuses the Platonists of explaining the coming-to-be of concrete, visible things (like 'flutes') by referring to a formal cause and a material cause only. They pretend that carpentry can find its way into flutes [and in doing so they fail to appreciate that there must be a special *koinônia* between the formal principle and what the formal principle acts upon. Therefore, the body with which the soul is connected and into which it is placed must be specified more precisely as having a special affinity with the soul, namely as the instrumental body of the soul⁷⁵.] For a craft must use its instruments and the soul its [instrumental] body⁷⁶.

Because we can observe in *De motu animalium* 10 how essential *pneuma* is for Aristotle as an 'instrument' of the soul for the 'mediation' of psychic movement to the visible body, we must, if we take 'each' in I 3, 407b23 in the sense of 'any (visible body) whatsoever' of a living being, conclude that the main thrust of Aristotle's criticism in

⁷³ *Part. anim.* II 7, 652b7-16: βέλτιον δ' ἴσως φάναι ἐν τοιοῦτῳ τινὶ σώματι συνεστάναι. τούτου δ' αἴτιον ὅτι τοῖς τῆς ψυχῆς ἔργοις ὑπερρετικώτατον τῶν σωμάτων τὸ θερμόν ἐστιν· τὸ τρέφειν γὰρ καὶ κινεῖν ψυχῆς ἔργον ἐστί, ταῦτα δὲ διὰ ταύτης μάλιστα γίνεται τῆς δυνάμεως. ὅμοιον οὖν τὸ τὴν ψυχὴν εἶναι φάναι πῦρ καὶ τὸ πρίονα ἢ τρύπανον τὸν τέκτονα ἢ τὴν τεκτονικὴν, ὅτι τὸ ἔργον περαίνεται ἐγγὺς ἀλλήλων οὖσιν. Cf. I 1, 640b30-641a15. Cf. also *Gener. anim.* II 3, 736b33-737a7.

⁷⁴ The term ἐνήμοζον in II 2, 414a23 points in the same direction.

⁷⁵ In his discussion of the soul's relation with the body Plot. *Enn.* IV 3 [27] 21, 15 brings up τὸ παράδειγμα τοῦ κυβερνήτου τοῦ ἐνδύντος πρὸς τὸν οἶκα ...

⁷⁶ There is a close relationship between this text, thus understood, with that of I 4, 408b12-15, where claiming that the soul is wrathful is said to be the same (and just as defective) as claiming that the soul 'weaves' or 'builds houses': τὸ δὲ λέγειν ὀργίζεσθαι τὴν ψυχὴν ὅμοιον κἂν εἰ τις λέγοι τὴν ψυχὴν ὑφαίνειν ἢ οἰκοδομεῖν. For this, too, the soul requires an instrumental body as a mediating entity. Cf. also *Gener. anim.* I 2, 716a23: δεῖται δὲ πρὸς πᾶσαν ἐργασίαν ὀργάνων.

this passage is that the Platonists failed to postulate a specific ‘soul-body’ as an instrument of the soul. The remark about the soul’s use of a body as its instrument would lack any meaningful relationship with the preceding criticism of the Platonists and Pythagoreans if Aristotle was not designating ‘the body which receives the soul’ as the instrument of the soul by means of which it produces the visible body, in the same way as carpentry produces flutes by using its instruments.

We must also consider that, though Plato uses expressions like ‘the soul of Thersites enters a monkey’, incarnation always relates to the moment of conception, when the entire process of development towards the fully formed specimen has yet to start.⁷⁷

Another possible explanation of I 3, 407b23

There was also, however, an alternative way to explain *De anima* I 3, 407b23-24, viz. option (B). Assuming this option is the correct one, Aristotle would start the discussion by reproaching his opponents for failing to specify the characteristics of the body that is to receive the soul. And then he adds: [Such a specification can scarcely be omitted.] For each body that is to receive a soul-principle and becomes an instrumental body for that soul has a specific form of its own. [The body that receives a plant-soul will be able to execute nutritive functions only. It has no use for sensitive or rational activities. The body that receives a human soul, however, must be specified differently.] Platonists and Pythagoreans neglect these differences. Their theory is like suggesting that the art of carpentry might be able to use flutes. [But it cannot. Therefore their theory is defective.] For a craft has to use its own instruments as the soul its own (instrumental) body.

It is remarkable that in option (B) the explanation of 407b24-26 is entirely in line with the traditional explanation of these lines, though it places them in an entirely different framework.

In my opinion Aristotle’s exposition of his own alternative view in *De anima* II 1-2 forces us to choose the second option. I will discuss that passage in chapter 5 below.

⁷⁷ Cf. *Phys.* II 1, 193b13 on generation as ὁδός εἰς φύσιν.

*Criticism of the lack of an efficient cause in Plato's ontology according to
Aristotle's Metaphysics*

Aristotle's criticism of Plato's psychology (and that of the Pythagoreans) has a remarkable parallel in his discussion of Plato's ontology in the *Metaphysics*. This starts by reproaching Plato for distinguishing no more than two causes in his philosophy, namely the formal cause and the material cause⁷⁸. In Aristotle's view, it is not he who is a hylo-morphist but Plato⁷⁹. His chief criticism of Plato's conception is in fact that it pays no attention to a cause of motion or change⁸⁰. According to Aristotle, the main question about the generation of individual living creatures is: 'What exactly produces them with a view to the Ideas as model?'⁸¹. This clearly shows that Aristotle will not accept the answer: 'The divine Demiurge from the *Timaeus*'. As Intellect he can only be theoretically active and cannot simultaneously function as an efficient cause. Nor would Aristotle accept an answer which refers to the 'younger gods', as in Plato's *Timaeus* 41d.

The postulation of intelligible models alone is insufficient, says Aristotle. There can be no generation on the basis of the doctrine of the two worlds in the *Phaedo* without the addition of a cause of motion⁸². The philosophy of Plato is solely concerned with the forms

⁷⁸ *Metaph.* A 6, 988a9: δυοῖν αἰτίαι μόνον κέχρηται, τῇ τε τοῦ τί ἐστι καὶ τῇ κατὰ τὴν ὕλην...

⁷⁹ In the later doxographical tradition, too, Aristotle is often said to have recognized, not a formal principle, but only 'god' and the material principle. Cf. J. Pépin, *Théologie cosmique* 63. As I hope to make clear in chap. 5, Aristotle assumed for living creatures a 'hylomorphic' unity of formal principle and principle of motion.

⁸⁰ *Metaph.* A 9, 991a11

⁸¹ *Metaph.* A 9, 991a22: τί γάρ ἐστι τὸ ἐργαζόμενον πρὸς τὰς ἰδέας ἀποβλέπων; This fundamental criticism also seems to be reflected in Ambrose, *Hexameron*, I 1, 1: *alii quoque, ut Aristoteles cum suis disputandum putavit, duo principia ponerent, materiam et speciem, et tertium cum his, quod operatorium dicitur, cui subpeteret competenter efficere quod adorandum putasset*. This text formed the starting-point for the study by J. Pépin, *Théologie cosmique* (1964). When Philo, *Opif.* 18 says not of the transcendent Intellect but of the Logos that it produces the visible world, ἀποβλέπων εἰς τὸ παράδειγμα, it is clear that he has taken Aristotle's criticism of Plato's Demiurge to heart. Cf. *Anim.* II 4, 416a13, where it is said that fire might be thought to be τὸ ἐργαζόμενον in living creatures, but that this function belongs to the soul rather than to matter. We do well to bear in mind here Aristotle's proposition in *Gener. anim.* I 2, 716a23: δέχεται δὲ πρὸς πᾶσαν ἐργασίαν ὀργάνων.

⁸² *Metaph.* A 9, 991b3-5. Vgl. *Gener. corr.* II 9, 335a30: ἡ μὲν γὰρ ἐστὶν ὡς ὕλη, ἡ δ' ὡς μορφή. Δεῖ δὲ καὶ τὴν τρίτην εἶναι προσυπάρχειν. 335b8: Δεῖ δὲ προσεῖναι καὶ τὴν τρίτην, ἣν ἄπαντες μὲν ὀνειρώττουσι, λέγει δ' οὐδεὶς. J. Pépin (1964) 24 n. 2, remarks that Aristotle's ὀνειρώττουσι ('to have a vague intuition of') refers to Plato's Demiurge, who displays aspects of a *causa efficiens*, but who cannot be such a cause

of things and to explain them introduces ideal Forms. But it is inadequate as a philosophy in that it is unable to explain the existence (and generation) of visible things, because it does not say a word about the cause of change.⁸³ 'Participation' is not a real and valid explanation. What follows in the *Metaphysics* shows that Aristotle assigned the role of efficient cause in the cosmos to the cosmic celestial gods and their spheres, i.e. to the beings which occupy a mediatory position between the perfectly transcendent, immaterial Intellect and the sphere of the changeable and perishable natural substances. As is evident from his treatise *On the generation of animals* he attributed a similar mediatory role between Form and Matter to the fine-material *pneuma*, which he assumes as a vitalizing substance in all living beings, and to Heat and Cold as the primary properties of this *pneuma*.

I have already remarked that in his discussions in book II, in which he develops his own alternative, Aristotle returns explicitly to the view criticized in I 3. This passage will be discussed at length in chapter 5. I note here only that *De anima* II 2, 414a10 also discusses 'that which receives' (τὸ δεκτικόν) in connection with the soul. Here, too, this must refer to the special body that is an instrument for the soul.⁸⁴

Entirely in line with the above is the extensive comparison in *De generatione animalium* I 22, 730b11-23, where Aristotle says that nature uses sperm as an instrument (*organon*), just as crafts use instruments to introduce form into matter.⁸⁵ We can add that the disputed work *De spiritu* clearly refers to *pneuma* when talking about 'the body which is the primary substance that receives the soul'.⁸⁶

because he is regarded by Plato as a theoretically active Intellect. Cf. also the text in Ambrose quoted above, *Hexaem.* I 1, 1 and J. Pépin (1964) 65ff.

⁸³ *Metaph.* A 9, 992a24-29. In *Phys.* I 9 Aristotle criticizes Plato's doctrine of principles from a slightly different angle. But closer consideration shows that the same problem is involved. Aristotle postulates the need for a principle that has been dynamized by ἔφεσις and ὄρεξις (192a18).

⁸⁴ This is made clear by the emphasis on the affinity between the actualizing and the potential in 414a11: δοκεῖ γὰρ ἐν τῷ πάσχοντι καὶ διατιθεμένῳ ἡ τῶν ποιητικῶν ἐνέργεια ὑπάρχειν.

⁸⁵ Cf. C. Lefèvre (1972) 52. See also *Gener. anim.* V 8, 789b7-15, esp. b10: ὥσπερ ἐν τῇ χαλκευτικῇ ἡ σφύρα καὶ ὁ ἄκμων, οὕτω καὶ τὸ πνεῦμα ἐν τοῖς φύσει συνεστῶσιν.

⁸⁶ *Spir.* 5, 483b11: τὸ πρῶτον δεκτικὸν ψυχῆς.

CHAPTER FIVE

ARISTOTLE'S NEW PSYCHOLOGY IN *DE ANIMA* II 1-2

A new approach to De anima II 1

In this chapter I want to explore a reading of *De anima* II 1 in which the psychology of *De anima* leaves scope for (a) the doctrine of *pneuma* in *De motu animalium* 10 and (b) the related theory that the soul of a living creature is located in a central place and not in the living creature as a whole. I will ask, in short, whether the view proposed in *De anima* II 1 that the soul 'is the first entelechy of a natural body that is *organikon*' is somehow compatible with these two aspects of the theory in *De motu animalium*. Analyzing *De anima* II 1, I will also consider to what extent the view of *De anima* leaves room for the psychology of Aristotle's lost writings, on which we possess fragmentary but significant information, particularly about a special relationship between specifically human functions and the 'natural body' which ether is. This discussion will support the following propositions.

1. The traditional attribution to Aristotle of a hylomorphistic psychology, i.e. the theory that the soul is the form of the visible body, is based only on the interpretation of the text of *De anima* II 1.

2. The traditional interpretation of *De anima* II 1 is wrong because it is based on a misinterpretation of the words (*sômata*) *physika* (412a11) and *organikon* (412a28; b5) in Aristotle's famous definition of the soul and of *ta merè* (412b18), which indicate not parts of the visible body of a living being but parts of the soul.

3. My revised interpretation of *De anima* II 1 is compatible with Aristotle's position in the other works of the Aristotelian Corpus and with the fragments of his lost writings. This position might be called a 'cybernetic instrumentalism'.

4. These conclusions lead to the hypothesis that the traditional interpretation of Aristotle's psychology in *De anima* is a product of late Hellenistic exegesis and, more specifically, probably of Alexander of Aphrodisias¹.

¹ Cf. A.P. Bos, 'Aristotle's *De anima* II 1: the traditional interpretation rejected', D. Sfendoni-Mentzou; J. Hattiangadi; D. Johnson (eds), *Aristotle and contemporary*

De anima I does not mention earlier Aristotelian positions

In *De anima* II 1 Aristotle concludes that enough has been said about the views of earlier philosophers on the soul (412a3-4). Strikingly, book I says nothing about Aristotle's own psychological views which were formulated in his dialogue *Eudemus* or *on the Soul* and which no doubt played a role in his *Protrepticus*² and *De philosophia*. W. Jaeger and F. Nuyens hypothesized that Aristotle argued a distinctly different view (or views) on the soul in these published writings. If they are right, it is hard to understand why Aristotle does not mention this, especially because his dialogues are situated not in a remote past but in his own time and he himself is presented as a participant and sometimes discussion leader. Perhaps Aristotle later regretted the close connection between these writings and the Macedonian royal house and so preferred not to draw attention to them. But even then he could have indicated that the position set out in *De anima* II 1 was a new beginning for himself too.³ This silence is strange and

science vol. 2 (New York/Frankfurt a. M. 2001) 187-201. My conclusions are rather different from those of P. Gohlke (1947; ³1961) 135-136, who in n. 10 remarks on *Anim.* II 1, which he explains in the traditional manner: 'Das erste Kapitel des zweiten Buches gehört in seiner Durchsichtigkeit und gradlinigen Gedankenführung zu den befriedigendsten Abschnitten aristotelischer Metaphysik'. The exegetical history of this chapter of *De anima* clearly refutes this view.

² The bibliographical lists and some doxographical reports distinguish this work from the *Eudemus*. In chapter 12 I will argue that the two names may refer to the same work.

³ According to W.D. Ross, *Parva naturalia* (Oxford 1955) 5 Aristotle's own views were implicitly encompassed when he criticized Plato and other predecessors for the fact that their psychologies were mainly concerned with the human soul only (*Anim.* I 1, 412b1-5). Likewise W.K.C. Guthrie, *A history of Greek philosophy*, vol. VI 278. But they have no solid arguments for this. The main new feature of Aristotle's doctrine of the soul is an awareness that vegetable life is also a form of life and that animals and human beings also possess this form of life. There is no indication that Aristotle gained this crucial new insight at a later stage. Those who accept one or more changes of view for Aristotle can easily draw up the rule that Aristotle never criticized earlier views and therefore had no need to do so here. Thus e.g. H.J. Easterling, 'Quinta natura', *Mus. Helv.* 21 (1964) 75: 'Aristotle is not in the habit of providing such sign-posts of the course of his development'. This is a classic example of begging the question. In *Antiquity Plu. De virt. mor.* 7, 448A for one mentions that Aristotle, Democritus, and Chrysippus readily abandoned earlier views: ἐνια τῶν πρόσθεν αὐτοῖς ἀρεσκόντων ἀθορύβως καὶ ἀδῆκτως καὶ μεθ' ἡδονῆς ἀφείσαν. Cf. I. Düring, *Aristotle in the ancient biographical tradition* 353-355. But Plutarch's example from the sphere of ethics is not impressive. Cf. G. Verbeke, 'Plutarch and the development of Aristotle', I. Düring; G.E.L. Owen (eds), *Plato and Aristotle in the mid-fourth century* (Göteborg 1960) 236-239. More plausibly Plutarch could have mentioned the theme of the soul's (im)mortality, since he quotes extensively from the *Eudemus* but also seems familiar with Aristotle's *De anima* (see

remarkable if the view in the lost works was in fact a different one, but perfectly natural if the theory of *De anima* is not at odds with that of earlier writings. In that case *De anima* is a detailed and exact elaboration of views which Aristotle had long held and which guided him when he wrote the *Eudemos* and other lost works.

It would be strange, too, for Aristotle to say nothing about his own earlier views if he had already written *Parva naturalia*, *De motu animalium*, and *De generatione animalium* containing his theory of the soul's location in a central part of the body, and then went on to argue a radically different view in *De anima*. But this modern hypothesis is also to be rejected. We can establish that *De anima* II 1, 412b27 clearly presupposes the doctrine of *De generatione animalium* on the sperm (of living creatures) and the fruits (of plants) and that *De anima* III 10, 433b19 uses the theory of *De motu animalium* on *pneuma* as the somatic vehicle of *orexis*.

In explaining what follows in *De anima* II 1, we will focus on the transmitted text, bearing in mind M.C. Nussbaum's remark that the text of this work is 'unusually corrupt'⁴. We will not be guided by the interpretations which have been passed down from commentators in Antiquity. There survive extensive discussions of Aristotle's treatise *On the soul* or themes occurring there by Alexander of Aphrodisias, Themistius, Simplicius (? or Priscianus Lydus), Philoponus, and Sophonias. But these discussions are not primarily aimed at a correct historical interpretation of Aristotle's text. Almost always these authors are also concerned to develop their own psychological system, which is compatible with their own philosophical (Neo-Aristotelian or Neo-Platonic) presuppositions and taking account of discussions conducted since Aristotle.⁵ Writing a commentary in the late-Hellenistic period was not an exercise in writing history of philosophy, as it is in modern times, but the normal way of practising philosophy itself.⁶

Plu. *Plat. quaest.* 8). Nevertheless, G. Verbeke is keen to present Plutarch as a forerunner of W. Jaeger and his genetic approach to Aristotle's work (247).

⁴ M.C. Nussbaum, *Essays on Aristotle's De anima* (Oxford 1992) 2. See also O. Gigon, *Aristoteles, Vom Himmel; Von der Seele; Von der Dichtkunst*, eingel. und neu übertragen (Zürich 1950) 218: 'Die Bücher über die Seele sind kein von Aristoteles publizierter Text. Der Mangel an Zusammenhang und Folgerichtigkeit in der Darstellung ist allenthalber offensichtlich'.

⁵ These late-Hellenistic commentaries will be dealt with in another study, focusing in detail on the major differences between the views of late commentators on crucial points in Aristotle's theory.

⁶ Cf. R.W. Sharples, *Alexander of Aphrodisias, Quaestiones 1,1-2,15* (London 1992)

Looking at the entire (late-Hellenistic) tradition of interpreting of the *De anima*, one is inclined to conclude that Aristotle's *De anima* was always explained as a work 'On living substances' or 'On living beings' and not as a treatise dealing with the theme of 'The soul', as Aristotle himself presented it.⁷ However, modern commentaries on *De anima* fail to discuss information which is found in fragments of works before Alexander of Aphrodisias. Further on we shall see that material from Boethus of Sidon, Plutarch of Chaeronea, Hippolytus of Rome, and Diogenes Laertius offers serious evidence of an earlier and different exegetical tradition.⁸

A twofold entelechy

Aristotle starts by asking to which of the categories distinguished by him the soul belongs. And he asks whether the soul can be regarded as an *ousia* (412a6). As regards *ousia*, he draws attention to the difference between 'ousia as matter' and 'ousia as shape and form' and 'ousia as a composite of these two' (412a7-9). He characterizes 'matter' as 'potentiality' (*dynamis*), 'form' as *entelecheia*.⁹ In relation to the term *entelecheia* he mentions the distinction between '*entelecheia* which can be compared with (the possession of) scientific knowledge' and '*entelecheia* which can be compared with the practise' (of science, 412a9-11). Aristotle clarifies this last distinction in 412a22-28 by noting that the presence of the soul may involve (a state of) sleep and (a state of) being awake¹⁰.

132.

⁷ But Aristotle himself clearly indicated that there is an important difference between the two. Cf. *Sens.* 1, 436a1: 'Ἐπεὶ δὲ περὶ ψυχῆς καθ' αὐτὴν διώρισται πρότερον..., ἐχόμενόν ἐστι ποιήσασθαι τὴν ἐπίσκεψιν περὶ τῶν ζώων καὶ τῶν ζῶν ἐχόντων ἅπαντων...'. That is to say: in *Anim.* Aristotle spoke about the soul καθ' αὐτήν. On this text, cf. also chapter 9 below. As I hope to show, this does not contradict the fact that Aristotle sees the soul as inextricably bound up with a *sōma physikon organikon*; if, however, *sōma physikon organikon* did refer to the visible body, that would provide a contradiction.

⁸ Cf. A.P. Bos, 'Plutarch's testimony to an earlier tradition of Aristotle's definition of the soul', A. Pérez Jiménez, J. García López, R.M. Aguilar (eds) *Plutarcho, Platón y Aristóteles. Actas del V Congreso Internacional de la I.P.S* (Madrid 1999) 535-548; id. 'Basilides as an Aristotelianizing Gnostic', *Vigil. Christ.* 54 (2000) 44-60.

⁹ This is a technical term introduced by Aristotle; its real meaning and derivation are highly controversial. See chapter 1 n. 2 above. In my view, *entelecheia* is most closely rendered 'the goal-orienting principle'. We will return to this term in chapter 6.

¹⁰ Cf. *Gener. anim.* II 1, 735a9-12. In *Anim.* II 1, 412b28, however, the term 'to

This sentence has given rise to many errors in the exegetical tradition. It is important to realize that the notions of 'sleeping' and 'waking' are used metaphorically¹¹. Aristotle does not confine them to the sphere of animals and human beings (who can sleep and wake because they have sense-perception¹²) but applies them to every manifestation of soul, including the vegetative soul. He wants to emphasize here that a grain of corn or a chestnut not yet sown or planted is in a state of germinative dormancy, which he represents as a 'sleep' of the (vegetative) soul.

Plato in the *Phaedo* uses the two activities of waking and sleeping as analogies with 'life' and 'death'.¹³ Aristotle employs the notions of waking and sleeping for conditions of the soul itself and on every level of psychic activity: in the vegetative soul, the sensitive soul, the motory soul, and the rational soul Aristotle distinguishes a condition in which the psychic function is present but not realized from a situation in which the function 'works'.

Because this theme is crucial to *De anima*, it is important to emphasize that the contrast between 'sleeping' and 'waking' seems to have played a pivotal role in Aristotle's *Eudemos*. H.J. Drossaart Lulofs was surprised that so many texts associated with the *Eudemos* say something about 'sleeping' and 'dreaming'.¹⁴ Interpreters of texts from the *Eudemos* have too often failed to ascertain whether the contrast between a potential and an actual function already figures in this lost work.

wake' is used non-metaphorically for the actualized state of the percipient part of the soul (of human beings or animals).

¹¹ The translations of J.A. Smith (1931), 'for both sleeping and waking presuppose the existence of soul', of W.D. Ross (1961) 211 'for both sleep and waking involve the presence of soul', of G. Movia (1979) 138, 'Difatti l'esistenza sia del sonno che del veglia implica quella dell' anima', and of M. Furth, *Substance, form and psyche: an aristotelean metaphysics* (Cambridge 1988) 150: 'for both sleep and waking depend on the existence of the psyche' must be rejected. E. Barbotin (1966) has correctly: 'le fait d'être animé comporte les deux états de veille et de sommeil'.

¹² Aristotle's point is that 'the presence of *psychē*' can occur in two ways in *all* composite substances possessing life, so not only in human beings and animals but also in plants (to which the conditions of sleeping and waking are unknown because they do not possess sensory capacity).

¹³ Pl. *Phd.* 71d5-72d10.

¹⁴ Cf. H.J. Drossaart Lulofs, *De ogen van Lynceus* (Leiden 1967) 33 n. 55. I have connected the text in Tert. *Anim.* 46 = Arist. *Protr.* fr. 20 Ross; 979 Gigon, which talks about a 'dreaming god Kronos', both with the *Eudemos* and with the distinction between the 'possession' and the 'practice' of scientific knowledge. Cf. A.P. Bos, *Cosmic and meta-cosmic theology in Aristotle's lost dialogues* (Leiden 1989) 1-4; 16-20; 83-89; 97-112 and 201-218; Ital. ed. 53-58; 74-80; 188-194; 333-357.

In this text Aristotle is discussing two conditions *of the soul*. As soon as the soul is present in a 'natural body which potentially possesses life and is *organikon*', this natural body has soul and possesses life¹⁵. But this does not mean that the animal life or the specifically human life already manifests itself. Some levels of life manifest themselves later than others. In a human embryo the specifically human or the sensitive life is dormant and does not develop until later.¹⁶ And a germinative seed does not germinate until the environment possesses the necessary heat and moistness. Aristotle elaborates this point in 412b22-413a3.

This notion of a development of the soul that Aristotle explains by speaking of two conditions of the soul, has not been given the attention it deserves. For it implies that there is *changeability* in relation to the soul. And for Aristotle it is totally clear that change can only take place if there is a subject which undergoes the change.

Natural bodies

In 412a11 he continues: '*Ousiai* in the first place seem to be bodies, and of these the natural bodies (*ta physika*). For these are the principles of the others'. A crucial decision needs to be made here: what does Aristotle mean by 'natural bodies'? It is important to remember here what we noted above in chapter 4, that in the didactic order of the Aristotelian Corpus *De anima* is the first work after the works dealing with purely physical reality, while all the biological writings are grouped after it. In *De anima* I 1 Aristotle had already observed that 'affections' of the soul are 'inseparable from the physical matter' of living creatures.¹⁷

¹⁵ The late Hellenistic commentators bend over backwards to avoid this conclusion. This is because they believe that real 'life' is only possible when 'the body' (which they interpret as the visible body) has fully developed by being 'equipped with organs' for various functions. Cf. Alex. Aphrod. *Quaest.* II 8, 54, 9-11 and *Simpl. In De an.* II 87, 3-6 and 88, 2-3, to be discussed below. See also Philop. *In De an.* 209, 16.

¹⁶ Cf. *Gener. anim.* II 1, 735a4: Πότερον δ' ἔχει ψυχὴν τὸ σπέρμα ἢ οὐ; ... α8: δῆλον οὖν ὅτι καὶ ἔχει καὶ ἔστι δυνάμει. ἐγγυτέρω δὲ καὶ πορρωτέρω αὐτὸ αὐτοῦ ἐνδέχεται εἶναι δυνάμει, ὥσπερ ὁ καθεύδων γεωμέτρης τοῦ ἐργηγορότος πορρωτέρω καὶ οὗτος τοῦ θεωροῦντος. (Note that soul is present in the sperm. In the sperm the soul is obviously the entelechy of a natural body that is *organikon*, as Aristotle will argue in *Anim.* II 1. Cf. 412b25-27, where '*sperma* and *karpos*' are said 'to have soul'.)

¹⁷ *Anim.* I 1, 403b17: ἐλέγομεν δὴ ὅτι τὰ πάθη τῆς ψυχῆς οὐ χωριστὰ τῆς φυσικῆς ὕλης τῶν ζώων (A. Jannone).

A. For W.D. Ross it is clear: these natural bodies are all the bodies which happen to exist in and owing to nature, in contrast to the bodies of all material things which are products of human craft and skill.¹⁸ This view is certainly suggested by the sentence which follows: 'Of natural bodies there are those which have life and others which do not' (412a13). This sentence is thus interpreted as intending to distinguish between, on the one hand, the bodies of all living beings, including plants, and, on the other, the elements of the sublunary sphere and their mixed forms.

But there are various problems with this explanation.

(a) The 'natural bodies' which are the principles of other bodies can only be the simple, elementary bodies.¹⁹ Bodies of plants, animals, and human beings sometimes provide the material for something else—the wood of a tree can be used to produce a table or a flute—, but as bodies of living creatures these bodies themselves are always products of a combination of the elementary bodies,²⁰ and therefore can never be 'principles' in the sense of 'first principles'.²¹

(b) Precisely the way in which Aristotle here speaks about 'natural bodies' as matters which 'seem to be *ousiai*'²² (but are not so in the

¹⁸ Aristotle, *De anima*, ed., with introd. and comm. by Sir David Ross (Oxford 1961; repr. 1964) 212: 'for natural bodies are the materials of which artefacta are made'; cf. 211. Likewise I.J.M. van den Berg, *Aristoteles' verhandeling over de ziel* (Utrecht/Nijmegen 1953) 93 n. 5. It is remarkable how emphatically Alex. Aphrod. *Anim.* 10, 1-3 declares that no one will dispute that a living creature, too, is a 'natural *sōma*'. In the previous pages he repeatedly uses 'natural body' in the sense of 'elementary body'.

¹⁹ In *Anim.* III 1, 424b30; 425a3 Aristotle speaks about air and water as 'simple bodies'. In *Long.* 2, 465a14-19 he distinguishes fire, water, and the like from τῶν ἄλλων ἕκαστον ἐκ τούτων ὄντα καὶ συνεστῶτα.

²⁰ Cf. *Anim.* III 13, 435a11: οὐχ οἷόν τε ἀπλοῦν εἶναι τὸ τοῦ ζῴου σῶμα and a19-20, and *Gener. anim.* I 1, 715a8-11: ὁ τε γὰρ λόγος καὶ τὸ οὐ ἕνεκα ὡς τέλος ταῦτον καὶ ἡ ὕλη τοῖς ζῴοις τὰ μέρη· παντὶ μὲν τῷ ὅλῳ τὰ ἀνομοιομερῆ, τοῖς δ' ἀνομοιομερέσι τὰ ὁμοιομερῆ, τούτοις δὲ τὰ καλούμενα στοιχεῖα τῶν σωμάτων and *Part. anim.* II 1, 646a13.

²¹ Cf. *Metaph.* Δ 1, 1012b32-1013a7; *Phys.* I 5, 188a27: δεῖ γὰρ τὰς ἀρχὰς μῆτε ἐξ ἀλλήλων εἶναι μῆτε ἐξ ἄλλων, καὶ ἐκ τούτων πάντα. *Gener. anim.* V 7, 788a14 and *Ps.-Plut. Plac.* I 2, 875d: ἀρχὰς δὲ λέγομεν διὰ τοῦτο, ὅτι οὐκ ἔχει τι πρότερον ἐξ οὗ γεννᾶται, ἐπεὶ οὐκ ἔσται ἀρχὴ τοῦτο. See also Arist. *Meteor.* I 2, 339a11-14. In *Anim.* I 2, 404b7-405b30 Aristotle had talked at length about *archai*. In 404b31 he pointed to the important differences between those who assume only corporeal principles (i.e. the elements) and those who recognize immaterial principles as well. See also *Plu. De primo frigido* 947E: τετάρων ... ὄντων ... σωμάτων, ἃ ... οἱ πλείστοι στοιχεῖα τῶν ἄλλων ὑποτίθενται καὶ ἀρχάς.

²² *Anim.* II 1, 412a11: οὐσίαι δὲ μάλιστα εἶναι δοκοῦσι τὰ σώματα, καὶ τούτων τὰ φυσικά· ταῦτα γὰρ τῶν ἄλλων ἀρχαί.

sense in which a plant or an animal is a substance²³) makes it clear that Aristotle is talking about the elementary bodies.²⁴

(c) Further on Aristotle comes to speak about composite substances, which are made up of a combination of ‘natural body’ and immaterial soul. So in any case composite substances include a ‘natural body’. The only logically correct procedure therefore is to speak, first, about ‘natural bodies’ and, next, about cases in which ‘natural bodies’ occur in a special setting, namely in combination with a soul-principle.

(d) When Aristotle talks about ‘things which exist by nature’, he distinguishes between things that ‘are bodies and magnitudes’ and things which ‘possess bodies and magnitudes’²⁵. J. Tricot explains this distinction as the difference between things like fire, water, stones, wood on the one hand and animals and plants on the other. He bases this on Simplicius’ commentary *ad loc.*²⁶ This also seems to be the purport of the text *De caelo* I 3, 270a29-33 and the claim in *Metaphysics* Δ 8 that for living beings the soul is the cause of their existence, while it is present in them as in an entity which is not predicated of anything else.²⁷

(e) The expression ‘natural bodies’ occurs most frequently in Aristotle in the sense of ‘the bodies of the elements’²⁸ (see below in B).

²³ Cf. *Metaph.* Z 7, 1032a18: ἄνθρωπος ἢ φυτὸν ἢ ἄλλο τι τῶν τοιούτων, ἃ δὴ μάλιστα λέγομεν οὐσίας εἶναι.

²⁴ This is made clear by *Metaph.* Z 2, 1028b8 and 16, 1040b5-8. Cf. M. Furth (1988) 78.

²⁵ *Cael.* I 1, 268a4-5: τῶν γὰρ φύσει συνεστώτων τὰ μὲν ἐστὶ σώματα καὶ μεγέθη, τὰ δ’ ἔχει σῶμα καὶ μέγεθος. Cf. J. Tricot, *Aristote, Traité du Ciel, suivi du traité pseudo-aristotélicien Du monde* (Paris 1949) 1 nt. 3. See also *Cael.* III 1, 298b3: πᾶσαι γὰρ αἱ φυσικαὶ οὐσίαι ἢ σώματα ἢ μετὰ σωμάτων γίνονται καὶ μεγεθῶν. In I 3, 270a30-33 the ‘bodies of living creatures and plants’ are called ‘natural bodies’, but this should be read against the background of the assertion in I 1, 268a4-5.

²⁶ Simpl. *In Cael.* 6, 35ff.

²⁷ *Metaph.* Δ 8, 1017b15-16: ὃ ἂν ᾗ αἴτιον τοῦ εἶναι, ἐνυπάρχον ἐν τοῖς τοιούτοις ὅσα μὴ λέγεται καθ’ ὑποκειμένον, οἷον ἡ ψυχὴ τῷ ζῳῳ.

²⁸ For the bodies of living creatures Aristotle uses τὸ τοῦ ζῳου σῶμα in *Anim.* III 13, 435a11. Cf. 435a20 and III 12, 434b13. He can also describe the soul as τοῦ ζῳου σώματος αἰτία καὶ ἀρχή (*Anim.* II 4, 415b8) and as τῶν ἐμψύχων σωμάτων ... αἴτιον (415b11). In *Anim.* III 12, 434b12 and *Gener. anim.* II 4, 738b19 Aristotle refers to the living creature as a σῶμα ἐμψυχον. The passage in *Anim.* II 4, 415b18 πάντα γὰρ τὰ φυσικὰ σώματα τῆς ψυχῆς ὄργανα, καὶ καθάπερ τὰ τῶν ζῳων, οὕτω καὶ τὰ τῶν φυτῶν, ὡς ἐνεκα τῆς ψυχῆς ὄντα, is perhaps not a clearcut counter-example. The manuscript E, which had a different writer in book II compared with books I and III and gives rather divergent readings, has here: πάν τὸ σῶμα ὄργανον τῇ ψυχῇ· ὥσπερ δὲ τῶν ζῳων, καὶ τὸ τῶν φυτῶν (see E. Barbotin, 1966, 113). H. Busche, *Die Seele als System. Aristoteles’ Wissenschaft von der Seele* (Hamburg 2001) 27 considers 415b8-24 ‘ein Einschiebsel mit allgemein resümierender Funktion’, referring to

B. I therefore want to consider here the other possibility:

'*Ousiai* in the first place seem to be bodies, and of these the (elementary) natural bodies. For these are the principles of the others'.

(a) The expression 'natural bodies' in the sense of 'the elements (and their mixed forms)' occurs in Aristotle frequently.²⁹

In *Metaphysics* Z 2, 1028b8ff., giving a detailed list of *ousiai*, Aristotle mentions 'the living creatures and the plants and their parts' and 'the natural bodies, like fire and water and earth and the like'.³⁰ Aristotle does not give the name '*ousiai*' here to just the bodies of living creatures or plants but to living creatures and plants as such. These are to be distinguished from 'the natural bodies' in the sense of the elements. So the connection which J. Tricot³¹ makes between *De anima* II 1, 412a11-12 and *Metaphysics* Z 2 is wholly correct. This leads to the conclusion that, as in *Metaphysics* Z 2, the term *physika sômata* in the text in *De anima* specifically means 'elementary bodies'. The same usage is found in *Metaphysics* H 1, 1042a6-11. In Δ 8, 1017b10 Aristotle starts his summary of the uses of the term *ousia* with the simple bodies, like earth, fire, and water and the like, and, in general, bodies and the things composed of them, both living creatures and demonic beings and their parts.³²

(b) These 'natural bodies' are also the principles of all other (composite) bodies, both those of the bodies which are products of craftsmanship, such as a pitcher, a marble statue, or a ship, and those of plants, animals, and human beings.³³ All sublunary reality is composed of these four bodies.³⁴

R.D. Hicks (1907) 341. It seems wrong to read τὰ φυσικὰ καὶ ἔμψυχα σώματα here, as Philop. 274, 11 and Sophon. 58, 38 do.

²⁹ In *Motu anim.* 10, 703a26 even in a context in which the term also includes *pneuma*. See also *Cael.* I 2, 268b14-16; I 7, 274b4-5; I 9, 278b8; b13; b23; b25; 279a8; a15; III 1, 299a11; 300a17; 3, 302b5; 5, 304b13; *Phys.* II 2, 193b24; 32; IV 1, 208b8; *Gener. corr.* II 5, 332a4; *Meteor.* IV 8, 385a9-10; *Metaph.* N 3, 1090a32. In *Gener. anim.* III 11, 761b17-18 Aristotle calls fire, after earth, water, and air, 'the fourth of the bodies': τοῦτο γὰρ τέταρτον ἀριθμεῖται τῶν σωμάτων.

³⁰ *Metaph.* Z 2, 1028b8: Δοκεῖ δ' ἡ οὐσία ὑπάρχειν φανερώτατα μὲν τοῖς σώμασιν (διὸ τὰ τε ζῶα καὶ τὰ φυτὰ καὶ τὰ μόρια αὐτῶν οὐσίας εἶναι φαμεν, καὶ τὰ φυσικὰ σώματα, οἷον πῦρ καὶ ὕδωρ καὶ γῆν καὶ τῶν τοιούτων ἕκαστον. Cf. *Simpl. In De an.* II 84, 32: ὅτι δὲ ταῦτα (sc. τὰ ἔμψυχα καὶ ζῶντα) οὐσῖαι, ἐπιστώσατο ἐκ τοῦ καὶ πάντα τὰ φυσικὰ σώματα.

³¹ *Aristote, De l'âme* (Paris 1959) 66 n. 2.

³² Cf. *Metaph.* B 5, 1001b32: ἃ δὲ μάλιστ' ἂν δόξειε σημαίνειν οὐσίαν, ὕδωρ καὶ γῆ καὶ πῦρ καὶ ἄηρ, ἐξ ὧν τὰ σύνθετα σώματα συνέστηκε.

³³ *Cael.* I 2, 268b26; 5, 271b17; *Gener. corr.* II 8; *Part. anim.* I 1, 640b16-23; *Long.* 2, 465a14-18.

³⁴ *Meteor.* I 2, 339a19: Ὁ δὲ περὶ τὴν γῆν ὅλος κόσμος ἐκ τούτων συνέστηκε τῶν

(c) Aristotle says in *De partibus animalium* that the soul is located in 'a body' like fire. 'For of all *sômata* heat is most serviceable of all for the activities of the soul'. In this passage, therefore, Aristotle is talking about 'natural bodies' and he connects the soul with one of these as its *organon*.³⁵

(d) The view that Aristotle is thinking of an 'ordinary' natural body here is also supported by the consideration that Aristotle in *De anima* I 3 has refuted at length the Platonic position that the soul possesses movement of its own. His own analysis of natural reality led him to see that movement is necessarily connected with 'natural bodies'.³⁶ Hence the soul can only be a principle of movement in combination with a natural body.

(e) When Aristotle defines the soul as the essence of a 'natural body which is of a particular kind and possesses a principle of movement and rest in itself',³⁷ we can infer from *Physics* II 1, 192b10-14 that Aristotle must be referring to one of the 'simple bodies', because he would otherwise be saying that the soul is 'the essence of a natural body with soul'.

Natural bodies possessing life

In 412a13 the text goes on: 'And of natural bodies there are (some) which possess life and others which do not. And by "life" we mean nutrition, growth, and decrease by means of it'³⁸. The first part of this sentence is necessary in the course of the argument. The second is not, while it does raise questions.

To start with, we can note that Aristotle recognizes a form of 'life' which is not the 'life' of a natural body but of the perfectly immaterial Intellect.³⁹ It is clear, however, that Aristotle wants to discuss life within the sphere of nature and that he regards the soul as the

σωμάτων.

³⁵ *Part. anim.* II 7, 652b9-16.

³⁶ *Cael.* I 9, 279a15: κίνησις δ' ἄνευ φυσικοῦ σώματος οὐκ ἔστιν.

³⁷ *Anim.* II 1, 412b16-17: ἀλλὰ φυσικοῦ τοιοῦδι ἔχοντος ἀρχὴν κινήσεως καὶ στάσεως ἐν ἑαυτῷ. Cf. Aristid. Quint. *Mus.* II 17, p. 88, 2 (Winnington-Ingram): εἶναι τοῦτο πρῶτον αὐτῇ σῶμα τι φυσικόν, where the soul-body is meant in distinction from the visible body that is called: τοῦτι τὸ ὀστρεῶδες ὄργανον.

³⁸ *Anim.* II 1, 412a13-15: τῶν δὲ φυσικῶν τὰ μὲν ἔχει ζωὴν, τὰ δ' οὐκ ἔχει· ζωὴν δὲ λέγομεν τὴν δι' αὐτοῦ τροφὴν τε καὶ αὐξήσιν καὶ φθίσιν (A. Jannone 1966). On the words δι' αὐτοῦ, however, see below.

³⁹ *Metaph.* Λ 7, 1072b26-30.

principle of life in nature⁴⁰. Remarkably, Aristotle seems to confine 'life' here to 'vegetative life'⁴¹. He does not make it clear that he will distinguish more forms of life.⁴² He seems wholly focused on the most basic form of life, of which he says further on that it alone can occur without the other faculties of the soul but the other not without it,⁴³ and which he calls 'the primary and most common power of soul', 'by virtue of which everything [that lives] has life'.⁴⁴ In 416b21 he calls this the work of the 'primary soul'.⁴⁵

The explanation of *De anima* II 1, 412a13 depends on that of 412a11-12.

A. Let us for example have a close look at the translation of J. Tricot: 'Des corps naturels, les uns ont la vie et les autres ne l'ont pas: et par "vie" nous entendons le fait de se nourrir, de grandir et de dépérir par soi-même'.⁴⁶ Tricot explains in a footnote: 'Opposition des corps animés (ἔμψυχα σώματα) et des corps inanimés (ἄψυχα σώματα) et non pas des vivants et des cadavres'.⁴⁷

Yet the correctness of this explanation is far from certain. First of all, I point out that the focus on vegetative life is strange. Aristotle has not yet underlined that for him all plants possess a soul-principle, as he will do in *De anima* II 4.⁴⁸ Furthermore, there is a textual problem in 412a14. By far the most and the most important manuscripts read there: δι' αὐτοῦ. But all modern editions give the reading δι' αὐτοῦ

⁴⁰ In *Anim.* II 2, 413a23-25 he mentions as activities of living beings: νοῦς, αἴσθησις, κίνησις καὶ στάσις κατὰ τόπον and κίνησις ἢ κατὰ τροφήν καὶ φθίσις τε καὶ αὔξεισις.

⁴¹ There is a problem, however. By focusing on vegetative life, Aristotle must leave out of consideration the life of the astral beings, who are not subject to growth and decrease (Cf. *Cael.* I 3, 270a28-35). Some explanation would have been in order for such a restriction in a systematic discussion.

⁴² Note that the specification of II 1, 413a14-15: ζῶν δὲ λέγομεν ... φθίσιν is not necessary for the train of thought. Though it is important for Aristotle to underline that he interprets 'life' in a broader sense than his predecessors, he certainly does not want to confine himself to a discussion of the *anima vegetativa*.

⁴³ *Anim.* II 2, 413a31-32. See the earlier passage I 5, 411b28-30.

⁴⁴ *Anim.* II 4, 415a23: 'Ἡ γὰρ θεραπευτικὴ ψυχὴ πρώτη καὶ κοινοτάτη δύναμις ἐστὶ ψυχῆς, καθ' ἣν ὑπάρχει τὸ ζῆν ἅπασιν.

⁴⁵ *Anim.* II 4, 416b21: τὸ μὲν τρέφον ἐστὶν ἡ πρώτη ψυχή.

⁴⁶ J. Tricot (1959) 66.

⁴⁷ Clearly the same train of thought is followed by G. Rodier (1900), R.D. Hicks (1907), W.S. Hett (1936), I.J.M. van den Berg (1953), W.D. Ross (1961) 212-213, E. Barbotin (1966) and D.W. Hamlyn (1968).

⁴⁸ Cf. *Anim.* II 4, 415a23ff.

or (like G. Rodier, R.D. Hicks, and W.S. Hett) translate the reading δι' αὐτοῦ. We will return to this later.

However, when Aristotle says: 'Some natural bodies have life and others do not', it is wrong to interpret this as 'the natural bodies (= the elementary bodies) do not have life, but the ensouled bodies of plants, animals, and human beings do'.

Also, Aristotle does not say anywhere in the Aristotelian Corpus that the bodies of plants, animals, and human beings 'nourish themselves, grow, and decrease'. He does not say this in, for instance, *Physics* VIII, where he identifies the atmosphere and food from the environment as the causes of growth and decrease and respiration.⁴⁹ And he does not even say it in *De anima* II 4, where he talks at length about the nourishing activity of the *anima nutritiva*. There, too, the concrete visible body is said to be 'that which is nourished'.⁵⁰ When discussing the digestive processes in living creatures, he is always careful to make it clear that the bodies of all that lives are nourished by the agency of the soul with the help of the innate vital heat.⁵¹

This is set out very clearly in *De iuventute* 14 / *De respiratione* 8. If we take the text of this passage seriously, we have a text in which Aristotle speaks about a 'natural body' by which the vital processes in living creatures are effected. This chapter starts by repeating that life and possession of soul go together with a certain heat (for the digestive process by which living creatures are nourished does not occur without soul and without heat: for it does everything by means of fire⁵²). Next, Aristotle argues that the primary nutritive soul, like the vital heat, must be located in the same place in the body of the

⁴⁹ *Phys.* VIII 6, 259b8: ἀλλ' ἐνείσιν ἄλλαι κινήσεις φυσικαὶ τοῖς ζώοις, ἃς οὐ κινούνται δι' αὐτῶν, οἷον αὕξεσις φθίσις ἀναπνοή.

⁵⁰ Cf. *Anim.* II 4, 416b20 and b23: τὸ τρεφόμενον.

⁵¹ In *Anim.* I 5, 411a29 he already said: γίνεται δὲ καὶ ἡ κατὰ τόπον κίνησις τοῖς ζώοις ὑπὸ τῆς ψυχῆς, ἔτι δὲ καὶ αὕξεσις τε καὶ ἀκμή καὶ φθίσις. He expands this in *Anim.* II 4, 416b20-29, which I will discuss below. Cf. *Gener. anim.* II 4, 740b29: ἡ τῆς θρεπτικῆς ψυχῆς δύναμις ... ἐκ τῆς τροφῆς ποιεῖ τὴν αὕξιν, χρωμένη οἷον ὀργάνοις θερμότητι καὶ ψυχρότητι (ἐν γὰρ τούτοις ἡ κίνησις ἐκείνης...).

⁵² *Resp.* 8, 474a25: 'Ἐπεὶ δὲ εἴρηται πρότερον ὅτι τὸ ζῆν καὶ ἡ ψυχῆς ἕξις μετὰ θερμότητος τινός ἐστιν (οὐδὲ γὰρ ἡ πέψις, δι' ἧς ἡ τροφή γίνεται τοῖς ζώοις, οὐτ' ἄνευ ψυχῆς οὐτ' ἄνευ θερμότητος ἐστιν· πυρὶ γὰρ ἐργάζεται πάντα). W.S. Hett translates the last words: 'for all food is rendered digestible by fire'. He thus takes πέψις as the subject of ἐργάζεται. But it is more probable that the soul is subject. Cf. *Anim.* II 4, 416a13. For the idea, cf. *Metaph.* A 9, 991a22: τί γὰρ ἐστὶ τὸ ἐργαζόμενον πρὸς τὰς ιδέας ἀποβλέπον; The 'earlier occasion' referred to is probably to be sought in the same work *Iuv.* / *Resp.*, as W.D. Ross 318 proposes: *Iuv.* 4, 469b6-20; 5, 470a5-6; 6, 470a19-22. But *Anim.* II 4 is also possible.

living creature and that this must be a central position, namely the heart for sanguineous living creatures, and a comparable location for other living entities.⁵³ Slightly further on the author continues: 'The other powers of the soul cannot be present without the power of nutrition (the reason for this has already been stated in the treatise *De anima*), but this (power of nutrition) depends on the natural fire'.⁵⁴ This is clearly a text which speaks about a 'natural body', namely 'natural fire', which is indispensable to the work of the *anima nutritiva*. And precisely in this passage Aristotle refers to his treatise *On the soul* as already written and still totally relevant to a clarification of what is said here. The passages in question are easily found in the text of *De anima*.⁵⁵ So we have a text in *De iuventute* / *De respiratione* in which a 'natural body' is presented as possessing 'life' and which also contains a reference to *De anima* I and II. It all seems clear and simple. Yet this is not the case.

W.D. Ross observes that the text in *De iuventute* 14 / *De respiratione* 8 could, in terms of its content, refer to *De anima* II 2, 413a31-b2; 3, 414a29-33, but *in actual fact does not*. He continues: 'since the *De iuventute* is in all probability an earlier work than *De anima* bk 2 ... the reference, if it is to our work *De anima*, must have been inserted later, either by Aristotle or an early editor. ... Düring may be right in supposing that it is to an earlier edition of the *De anima* than that which we have'.⁵⁶ This is another surprising case of 'pattern neatening'. First *De anima* II 1 has been explained in an un-Aristotelian manner and contrary to the authentically Aristotelian conception of the *Parva naturalia*. Next, the problem of how the *Parva naturalia* are related to *De anima* is solved by postulating that the *Parva naturalia* must belong to the middle period and *De anima* to the final phase of Aristotle's development. This means that references in the *Parva naturalia* to *De anima* as an existing and valuable work must be removed and declared invalid.⁵⁷

⁵³ *Iuv.* 14 / *Resp.* 8, 474a28-b3.

⁵⁴ *Iuv.* 14 / *Resp.* 8, 474b10-12: Τὰς μὲν οὖν ἄλλας δυνάμεις τῆς ψυχῆς ἀδύνατον ὑπάρχειν ἄνευ τῆς θρεπτικῆς (δι' ἣν δ' αἰτίαν, εἴρηται πρότερον ἐν τοῖς Περὶ ψυχῆς), ταύτην δ' ἄνευ τοῦ φυσικοῦ πυρός. *Spir.* 9, 485a32 talks about φύσεως πῦρ.

⁵⁵ W.S. Hett 451 refers to I 5, 411b18 and II 2, 413b1 (411b18 is probably a printing error for 411b28); W.D. Ross refers to II 2, 413a31-b2; II 3, 414a29-33.

⁵⁶ W.D. Ross, *Parva naturalia* 318, with reference to his Introduction (pp. 15-17) and to I. Düring, *Aristotle's De partibus animalium. Critical and literary commentaries* (Göteborg 1943) 131. For the problem of the relationship between the *Parva naturalia* and *De anima*, cf. chap. 9 below.

⁵⁷ But nobody explains why Aristotle, after writing a new version of *De anima*,

Against the standard position on *De anima*, I would argue that the *Parva naturalia* and in particular the passage discussed above talks about a ‘natural body’ which ‘possesses life’ in the sense intended by *De anima* II 1, 412a13. This ‘natural body’ possesses life in the basic sense that it brings about nutrition, growth, and decrease under the guidance of the soul-principle. In other words: it is the ‘instrumental body’ of the *anima vegetativa* or *nutritiva* by means of which the immaterial soul-principle regulates all digestive and nutritive processes. For in the ‘natural fire’ nature has ‘set aglow’ the *anima nutritiva*.⁵⁸ And while Aristotle certainly talks about the ‘natural body fire’ as a vehicle of life and of the *anima nutritiva*, we should also consider that, according to Aristotle, fire in the sublunary sphere almost never appears unmixed, but always in the form of another body, like air or earth of smoke.⁵⁹ That is why Aristotle speaks much more often about ‘heat’ and ‘the hot’ when referring to the physical manifestation of the nutritive soul.

B. The consequence of my alternative interpretation of *De anima* II 1, 412a11-12 is that in 412a13, too, ‘natural bodies’ must be regarded as ‘elementary natural bodies’. This means that we should understand: ‘Of the natural bodies [earth, water, air, fire, and ether; possibly also their mixed forms and their parts] there are some which possess life and others which do not’.

Can this view be called Aristotelian?

We can start by observing that, to a certain extent, all non-Platonic theories of ‘soul’ held such a view. Anaximenes, Diogenes of Apollonia, Heraclitus as well as the Stoics are clear examples of this.⁶⁰ In

did not eliminate references to the old version in the *Parva naturalia*, or, preferably, make a new version of the *Parva naturalia* as well.

⁵⁸ *Iuv.* 14 / *Resp.* 8, 474b12-13: ἐν τούτῳ γὰρ ἡ φύσις ἐμπεπύρευκεν αὐτήν. Cf. *Iuv.* 4, 469b13-17: διὸ τῶν μὲν ἄλλων μορίων ψυχομένων ὑπομένει τὸ ζῆν, τοῦ δ’ ἐν ταύτῃ φθείρεται πάνπαν, διὰ τὸ τὴν ἀρχὴν ἐντεῦθεν τῆς θερμότητος ἡρτῆσθαι πᾶσι, καὶ τῆς ψυχῆς ὥσπερ ἐμπεπυρευμένης ἐν τοῖς μορίοις τούτοις, τῶν μὲν ἀνάιμων ἐν τῷ ἀνάλογον, ἐν δὲ τῇ καρδίᾳ τῶν ἐναίμων.

⁵⁹ *Gener. anim.* III 11, 761b18: ἀλλὰ τὸ μὲν πῦρ ἀεὶ φαίνεται τὴν μορφήν οὐκ ἰδίαν ἔχον, ἀλλ’ ἐν ἐτέρῳ τῶν σωμάτων· ἡ γὰρ ἀήρ ἢ καπνὸς ἢ γῆ φαίνεται τὸ πεπυρωμένον.

⁶⁰ But with the important difference that they identified this natural body with the soul, whereas Aristotle assumed that this natural body possessed life because it formed a composite substance with an incorporeal soul-principle. As a result, Aristotle’s position did not lead to the consequence that in the entire living creature there could only be life because two *sômata* were in the same place, which he criticized as impossible in *Anim.* I 5, 409b2-4. Cf. *Gener. corr.* II 9, 335b24-336a12!

Aristotle ether can be regarded as a natural body which possesses life, even though the life of the astral beings does not involve phases of growth and decrease⁶¹: *De caelo* II 12, 292a20 distinctly says that we should not regard the celestial bodies as lifeless but as taking part in *praxis* and life. The entire chapter II 1 of the same work is intended to underline the quality of life of the celestial beings, who are gods in Aristotle's view.

The famous text in *De generatione animalium* II 3, which says that the '*dynamis* of every soul has something of a body that is different from and more divine than the so-called elements'⁶², also characterizes this (ethereal) 'natural *sôma*' as possessing life, for its presence makes *pneuma* and sperm life-giving.

In his lost works, too, Aristotle speaks about the celestial beings as living beings.⁶³ Apparently he also attributed to the celestial beings the sensory functions of 'seeing' and 'hearing'.⁶⁴

Can it be that Aristotle distinguished other 'elementary natural bodies' which 'possess life'? One example suggests itself: air. For Aristotle describes *pneuma* as 'hot air'⁶⁵ and he explicitly connects this *pneuma* with the soul.⁶⁶

And he describes *pneuma* in *De generatione animalium* as the instrument which the soul uses in its production of the visible, differentiated body.⁶⁷

In his discussion of the subject of 'spontaneous generation' he remarks that this can occur in earth and in the watery element, 'because water is present in earth and *pneuma* in water and psychic heat in all *pneuma*. Hence everything can in a certain sense be said to be full of soul.'⁶⁸

⁶¹ Cf. *Cael.* I 3, 270a12-b4.

⁶² *Gener. anim.* II 3, 736b29-31.

⁶³ Cf. *Philos. fr.* 21; 22; 27 Ross; 835; 836; T 19; 854; T 18, 1; 994-996 Gigon.

⁶⁴ Cf. *Philos. fr.* 24 Ross; 903 Gigon. If Aristotle in this dialogue hypothesized for the celestial beings that perception is an activity of 'the soul' which cannot take place 'without a body' (cf. *Anim.* I 1, 403a3-8), ether could be called the *sôma physikon organikon* of the celestial beings.

⁶⁵ *Gener. anim.* II 2, 736a1: τὸ δὲ πνεῦμά ἐστι θερμὸς ἀήρ. When Aristotle states in *Gener. anim.* III 11, 761b14: τὰ δὲ περὶ αὐτῶν θεῖα τις ἂν ἀέρος, he of course does not mean that the visible bodies of land animals consist of air, but their instrumental soul-bodies!

⁶⁶ *Gener. anim.* II 3, 736b29-737a7; *Motu anim.* 10. Cf. *Spir.* 5, 483b11 where *pneuma* is called τὸ πρῶτον δεκτικὸν ψυχῆς. In the controversial work *De mundo* 4, 394b9-12 *pneuma* is also said to be an ἔμψυχός τε καὶ γόνιμος οὐσία.

⁶⁷ Cf. *Gener. anim.* II 6, 741b37: διορίζεται δὲ τὰ μέρη τῶν ζώων πνεύματι.

⁶⁸ *Gener. anim.* III 11, 762a18-21: Γίγνονται ... διὰ τὸ ἐν γῇ μὲν ὕδωρ ὑπάρχειν, ἐν

Is there another example? This would have to be the element fire. First, because Cicero, in a text which mentions Aristotle's views, distinguishes fire and air, as elements which possess a 'power' to move and produce, from water and earth, which have a more receptive and passive nature.⁶⁹ But Aristotle's extant oeuvre can also be adduced for this position. Although Aristotle rejects the view of some pre-socratic philosophers that fire as such can be the explanatory basis of all biotic processes (because he believes that the soul is this explanatory basis), he does recognize fire as an auxiliary cause.⁷⁰ The vital heat which is present in all living creatures most certainly has to do with fire.⁷¹ The most basic psychic function, the nutritive, cannot do without natural fire.⁷² And Aristotle can even talk about 'psychic fire'.⁷³

However, on the basis of *De generatione animalium* III 11⁷⁴, which I will discuss in more detail in chapter 8, water and earth, too, are natural bodies which can minister to soul-principles as instrumental bodies.

It is essential to Aristotle's argument as we have reconstructed it in (B) that the soul is the vitalizing principle of a 'natural *sōma*', which as such only potentially possesses life and which is determined by the soul in such a way that it receives life. But life and soul are therefore determinations of a particular kind of 'natural body'.

In the next section of *De anima* (412a19-28) Aristotle specifies the term 'life' used in 412a13 by distinguishing between 'potentiality for life' and 'actual life'. Aristotle thus anticipates his discussion in *De generatione animalium* on *sperma* and *karpōs*, to which he will refer in *De anima* II 1, 412b25-26. About male sperm not yet united with

δ' ὕδατι πνεῦμα, ἐν δὲ τούτῳ παντὶ θερμότητα ψυχικὴν, ὥστε τρόπον τινὰ πάντα ψυχῆς εἶναι πλήρη. The lower quality of life in crustaceans, which are generated in the sea, is due to the fact that the 'natural body' which incorporates a soul-principle is sea-water with many earthy components; cf. *Gener. anim.* III 11, 762a24-28. In Aristotle's psychology of the *De anima*, 'spontaneous generation' is always hard to fit into the framework of the traditional explanation. There is no problem if we interpret the *sōma physikon* in *Anim.* II 1 as an 'elementary *sōma*'.

⁶⁹ Cic. *Acad.* I 7, 26 = Arist. *Philos.* fr. 27a Ross; T 18, 1 Gigon.

⁷⁰ *Anim.* II 4, 415b28-416a18.

⁷¹ *Anim.* II 4, 416b29. Cf. *Resp.* 6, 473a6: τοῦ ἐντὸς πυρός In chapter 9 I will propose to interpret the 'fire from above' (τὸ πῦρ ἄνω) in *Long.* 3, 465b2 as the vital heat of living creatures. Philop. *In De an.* 217, 10-14 believes that the soul cannot be the entelechy of the natural body fire because he interprets ὁργανικόν as τὸ ἔχον ὄργανα.

⁷² *Resp.* 8, 474b10-13.

⁷³ *Resp.* 15, 478a17: τοῦ ψυχικοῦ πυρός. Cf. *Part. anim.* II 7, 652b9.

⁷⁴ *Gener. anim.* III 11, 761b13-22.

menstrual blood, and about fruits not yet planted, Aristotle says that they have a 'natural body with a soul', but with a soul in a 'state of sleep', so that the 'natural body' possesses this (vegetative) life only potentially.

We thus obtain three increasingly precise formulations of a definition of the soul according to Aristotle: (1) 412a19-21; (2) 412a27; (3) 412b5.

- | | | | |
|-----|--------------------|-----------------|---------------------|
| (1) | εἶδος | σώματος φυσικοῦ | δυνάμει ζῶν ἔχοντος |
| (2) | ἐντελέχεια ἡ πρώτη | " | " |
| (3) | " | " | [] ὀργανικοῦ. |

The crucial specification here emerges in the third formula (412a28; 412b6): it is essential to the 'natural body' which potentially possesses life that it is '*organikon*'.

A natural body that is 'organikon'

At this place in the text we face a third decision: what does Aristotle mean by the expression '*sōma organikon*'? Here, too, there is a generally accepted, traditional view, which however clearly raises difficulties. And there is an alternative supported by arguments:

A. Normally the words in question are translated 'a natural organic or organized body' or 'a natural body equipped with organs'.⁷⁵

⁷⁵ Alex. Aphrod. *Anim.* 16, 11: τὸ ἔχον πλείω τε καὶ διαφέροντα μέρη ψυχικαῖς δυνάμεσιν ὑπηρετεῖσθαι δυνάμενα. *Quaest.* 54, 9-11; Philop. *In De an.* 217, 13: ὀργανικὸν δέ ἐστι τὸ ἔχον ὄργανα. F.F. Kampe (Leipzig 1870) 8: '(eines) mit Werkzeugen versehenen natürlichen Körpers'; G. Rodier (1900): 'l'acte premier d'un corps naturel organisé'; R.D. Hicks (1907) 51: 'the first actuality of a natural body furnished with organs'; T. Case (1910) 520B: 'the primary actuality of an organic body capable of life'; A.E. Taylor, *Aristotle* (1919) 76: 'the first entelechy (or actual realisation) of a natural organic body'; W. Jaeger, *Aristotle* 334: 'the entelechy of the organic body'; E. Zeller (Leipzig 1923; repr. Hildesheim 1963) vol. II 2, 481 postulates: 'Die Seele ist die erste Entelechie eines natürlichen organischen Körpers'; A.J. Festugière (1931) 90: 'l'âme, acte d'un corps 'organisé', ayant la vie en puissance'; W.S. Hett (1936; repr. 1975) 69, has: 'the first actuality of a natural body possessed of organs'; F.J.C.J. Nuyens (1939) 220 translates: 'een natuurlijk, bewerktuigd (organisch) lichaam'; A.L. Peck, *Ar. Gener. of anim.* (1942) lvii: 'the first realization of a body furnished with organs'; F. Sassen (1943) 92: 'het eerste innerlijk bepalend beginsel van het organische lichaam'; O. Gigon (1950) 286: 'mit Organen ausgestattet'; I.J.M. van den Berg (1953) 96 speaks about an 'organic physical body'; on p. 95 he is clearer: 'we have such a body if it possesses organs'; P. Siwek (1954) 93: 'organis praeditum' and 'corporis naturalis organici'; W. Theiler

(1) First of all one might object that the words 'organic' or 'organized' are inappropriate translation. They wrongly suggest that the present-day word 'organic' agrees in some way with what Aristotle had in mind when he used the word '*organikon*', though the practice of distinguishing a soul and a body has completely disappeared in modern scientific discourse. And the use of the term 'organized'

(1959) 25: 'die vorläufige Erfüllung des natürlichen mit Organen ausgestatteten Körpers'; W.D. Ross (1961) 211: 'an organic natural body'; P. Gohlke (³1961): 'die erste Verwirklichung eines mit Werkzeugen ausgestatteten natürlichen Körpers'; R. Bambrough (*et all.*) (1963) 247: 'the primary realization of a natural body that possesses organs'; E. Barbotin (1966): 'l'entéléchie première d'un corps naturel organisé'; C.H. Kahn (1966) 47: 'the form and realisation of an organic body'; E. de Strycker (1967) 142: 'een natuurlijk, georganiseerd lichaam'; D.W. Hamlyn (1968) X and 9: 'the first actuality of a natural body which has organs'; D.J. Allan, *The philosophy of Aristotle* (²1970) 50: 'the form or actuality of an organic body *potentially endowed with life*'; J. Owens (1971) 129: 'the first entelechy of a natural organic body'; J.L. Ackrill (1972-73) 119: 'the first actuality of a natural body that has organs'; C. Lefèvre (1972) 70: 'doté d'organes'; id. (1978) 21: 'l'acte premier du corps naturel organisé'; G. Reale, *Introduzione a Aristotele* (1974) 87: 'l'atto perfetto primo di un corpo naturale organico'; R. Sorabji (1974) 64: 'the soul is ... the first actuality of a natural body with organs'; E. Hartman (1977) 97: 'the first actuality of a natural body that has organs'; S. Mansion (1978) 11-12: 'soul is the formal *ousia*, the first entelechy of a natural body having life potentially in it, that is of an organized body' ('organized' is explained by her as 'made of various tissues and organs', p. 12); G. Verbeke (1978) 204: 'la première entéléchie d'un corps physique organique'; G. Movia (1979) 138: 'l'atto primo di un corpo naturale dotato di organi'; P. Thillet (1981) 5: 'l'entéléchie première d'un corps organisé'; J. Barnes (1982) 66: 'the first fulfilment of a natural body that has organs'; H. Flashar (1983) 413: 'die erste Erfüllung eines natürlichen, mit Organen versehenen Körpers'; T. Tracy (1983) 328: 'a natural body equipped with organs'; J.A. Smith (in J. Barnes ed. 1984): 'an actuality of the first kind of a natural organized body'; F. Inciarte (1984) 49: 'Seele ist die erste Verwirklichung einer natürlichen organischen Körpers'; P. Allen (1985) 88: 'the first grade of actuality of a natural body having life potentially in it. The body so described is a body which is organized'; L. Couloubaritsis (1985) 148: 'entéléchie première d'un corps naturel possédant des parties fonctionnelles'; M. Furth (1988) 150: 'having-organs'; 'that has organs'; T. Irwin (1988) 285: 'the first actuality of a natural organic body'; J.M. Rist, *The mind of Aristotle* (1989) 165, 173: 'a body equipped with organs'; M. Tweedale (1990) 130: 'the first actuality of an organic body'; S. Broadie (1993) 329: 'la première actualité d'un corps organique naturel'; R. Bodeüs (1993) 137: 'la réalisation première d'un corps naturel ... pourvu d'organes'; S. Everson, in J. Barnes, *The Cambridge companion to Aristotle* (1995) 173: 'the first actuality of a body which has organs'; H. Seidl (1995) 63: 'die erste Vollendung eines natürlichen, organischen Körpers'; H.J. Blumenthal (1996) 94: 'equipped with organs'; J. Hübner (1999): 'die erste Wirklichkeit eines physischen organischen Körpers'. In chapter 1 I already quoted the rendering of J.M. Rist (1985) 28: 'a natural body equipped with organs'. See, however, now R. Ferwerda (2000) 19: 'de verwerkelijk van een natuurlijk lichaam dat er het instrument voor is', with an explanation in n. 17: 'By this natural body Aristotle means the innate vital breath, according to our interpretation'; B. Schomakers (2000) 220: 'de eerste verwerkelijk van een natuurlijk, werktuiglijk lichaam'; D. Gutiérrez-Giraldo (2001) 164: 'instrumental'.

would seem to imply a *petitio principii* in so far as it would be synonymous with 'ensouled'.⁷⁶

(2) But to opt for the translation 'a body equipped with organs' is to give the Greek word '*organikon*' in this text a sense which it does not have anywhere else in the Aristotelian Corpus. According to H. Bonitz, *Index Aristotelicus*, '*organikon*' does not mean 'equipped with organs' as a predicate of a human, animal or vegetable body in any of the twenty-one passages he listed apart from the passages *De anima* II 1, 412a28 and b6. In all the other cases the word refers to parts of bodies or other things which 'serve as an instrument', and are 'instrumental' to something.⁷⁷ P. Gohlke, too, therefore, is mistaken in his translation: 'Verwirklichung eines mit Werkzeugen ausgestatteten natürlichen Körpers'.⁷⁸

The fact that Alexander of Aphrodisias translates 'equipped with organs' has to do with his philosophical approach, and not with his better knowledge of Greek. Iamblichus and Simplicius (Priscian?) again have 'instrumental'.⁷⁹

⁷⁶ Cf. H. Seidl (1995) xxii, who, to avoid this objection, applies the definition in its fullest sense to the fully grown body. But this raises problems with the clause 'potentially possessing life' in the definition. J. Whiting, 'Living bodies', M.C. Nussbaum, A. Oksenberg Rorty (eds), *Essays* (Oxford 1992) 77 has a similar problem, though she opts for the sense mentioned under (2): '... this body is *organikon* (412a29-b1). This means that it has organs which are defined by their functions and therefore that it cannot exist in the absence of soul, without which these organs could not perform their functions'.

⁷⁷ The two other passages where *ὀργανικόν* occurs in *Anim.* are III 9, 432b18: *μόριον ὀργανικὸν πρὸς τὴν κίνησιν ταύτην* and b25: *τὰ ὀργανικὰ μέρη τῆς πορείας*. In III 10, 433b22 we find *τὸ κινεῖν ὀργανικῶς*. This should not be translated 'qui agit au moyen d'organes' (A. Jannone) but: 'that which sets in motion in the manner of an instrument' (cf. D.W. Hamlyn and 433b19). See also *Pol.* I 13, 1259b23; *Gener. anim.* II 1, 734b28; *Part. anim.* II 1, 646b26; *Eth. Nic.* III 1, 1110a15. In the *Eudemus*, too, Aristotle seems to have spoken about *ὀργανικὰ* (μέρη) as 'instrumental parts'. Cf. fr. 7a Ross; 59 Gigon, in a passage from Philoponus (*In De an.* 145, 3) in which it is clear that Philoponus is closely following a text in Aristotle. H.G. Liddell, R. Scott, H.S. Jones, *A Greek-English Lexicon* give as translation for '*organikon*' in Aristotle only: '*serving as organs or instruments, instrumental*'. When Aristotle talks about a ζῷον ὀργάνους διαιρούμενον in *Resp.* 8, 474b18, he is referring to 'an animal that is cut in pieces by means of instruments'. S. Everson, *Aristotle on perception* (Oxford 1997) 64 also rejects the translation 'equipped with organs' as un-Aristotelian. For a positive response, see J. Barnes, *Class. Rev.* 49 (1999) 121.

⁷⁸ P. Gohlke (1947) 56.

⁷⁹ Cf. H.J. Blumenthal, *Aristotle and neoplatonism in late antiquity. Interpretations of the De anima* (London 1996) 94. It is interesting how Blumenthal deals with this fact: 'Ps.-Simplicius' solution is one that is not easily reconcilable with the text of Aristotle, and, moreover, involves a clear and presumably not inadvertent misreading of a crucial term in the original definition, namely *organikon*. By that Aristotle clearly means "equipped with organs" but Ps.-Simplicius, using the more basic

However, from the time before Alexander of Aphrodisias we know of Boethus the Peripatetic from Sidon, who lived in the 1st century BC and was a pupil of Andronicus. It is certain that he knew and defended Aristotle's definition of the soul and that he postulated the survival of the soul after an individual's death, though it ceases to exist in the course of time.⁸⁰ Plutarch, too, is only familiar with the sense 'serving as an instrument' for *organikon* in Aristotle's definition of the soul.⁸¹ And Diogenes Laertius also explains *organikon* very correctly as: '[made] suitable for something'.⁸² It can even be argued that Hippolytus, when discussing Aristotle's definition of the soul in his description of the doctrine of the Gnostic Basilides, uses the meaning 'instrumental' for *organikon*.⁸³ And when Ambrose, listing Aristotle's principles, mentions '*materia*' and '*species*' but also a third: '*quod operatorium dicitur*',⁸⁴ '*operatorium*' can plausibly be read as a translation of ὀργανικόν, in the sense of 'executive', 'instrumental'. The fact that modern commentaries on *De anima* have never mentioned these alternative interpretations is typical of how an 'orthodox' interpretation has been maintained for decades, or, to put it in T.S. Kuhn's terms, how a dominant paradigm has immunized itself against criticism.

It seems to me totally unacceptable that, at the very place where Aristotle formulates the essence of his psychology, a crucial part of it is translated in a way which has no parallel in Aristotle's entire oeuvre, while the term itself is used on countless occasions by Aristotle in a different sense. Even if one opts to interpret 'natural body' as 'the body of a living plant, animal, or human being', this body will

sense of *organon*, a tool or instrument, understands it to mean 'in the position of a tool or instrument' in relation to the next layer of soul above it, which is in the position of a user of a tool'.

⁸⁰ Cf. Eus. *P.E.* XV 11, 4 and Simpl. *In De an.* 247, 24. The arguments of P. Moraux, *Der Aristotelismus bei den Griechen* Bd. I (Berlin 1973) 143-179 against attribution of these texts to the Peripatetic Boethus are wholly unsound.

⁸¹ Plu. *Plat. quaest.* 8, 1006D, with the commentary of H. Cherniss (1976) 80-81. Cf. A.P. Bos, "Plutarch's testimony to an earlier interpretation of Aristotle's definition of the soul", A. Pérez Jiménez, J. García López, R.M. Aguilar (eds), *Plutarco, Pláton y Aristóteles. Actas del V Congreso Internacional de la I.P.S.* (Madrid 1999) 535-548. My attention was drawn to this text in Plutarch by Dr H.M. Keizer, to whom I am much obliged.

⁸² Diog. Laert. V 33: πρὸς τι κατασκευασμένον.

⁸³ Hipp. *Haer.* VII 19, 6 and 23, 7-24, 2. Cf. A.P. Bos, 'Basilides as an Aristotelianizing Gnostic', *Vigil. Christ.* 54 (2000) 44-60.

⁸⁴ Ambr. *Hexaem.* I 1. Cf. J. Pépin, *Théologie cosmique* 11ff.

have to be viewed as 'instrumental for the soul' in the definition of 412b5⁸⁵. However, as soon as one opts, under the compulsion of philological rules, for the explanation 'instrumental', all texts in *De anima*, *De motu animalium*, and *De generatione animalium* which mention an 'instrument of the soul' will have to be taken into account⁸⁶

The solution of S. Everson⁸⁷ is that Aristotle's definition applies to every 'organ' of a living creature: 'Eyes and hearts and livers are all examples of Aristotelian natural bodies'. He sees this confirmed by the example of the eye in *De anima* II 1, 412b18. But this solution breaks down on the fact that many souls would have to be assumed in one living creature.⁸⁸

(3) In the third place the translation 'equipped with organs' is un-Aristotelian. Aristotle himself cannot have called the entire visible body *organikon*. He always presented the body as being composed of 'homoioimerous' parts and 'anhomoioimerous' parts. The 'homoioimerous' parts have a purpose and an *ergon*, but Aristotle does not call them *organikon*.⁸⁹ Hence Aristotle calls the bodily parts which have a function for perception not 'instrumental parts' but *aisthêtêria*.⁹⁰ So a 'body equipped with organs' would be a body without senses for Aristotle.

⁸⁵ J. Barnes, *Class. Rev.* 49 (1999) 121: 'So perhaps 412b5-6 refers to the whole body (and not to bodily parts) as being organ-like (and not as having organs)? Cf. D. Gutiérrez-Giraldo, 'Ψυχή and genotype', D. Sfendoni-Mentzou (ed.), *Aristotle and contemporary science* vol. 2 (New York/Frankfurt a.M. 2001) 163-172, p. 164: 'instrumental body'. The unity of the soul with its 'instrumental body' is also illustrated in 412b11-12 by the example of an 'instrument' (*organon*), namely an axe. Aristotle clearly refers there to the formulation of his definition when he says: καθάπερ εἴ τι τῶν ὀργάνων φυσικὸν ἦν σῶμα, οἷον πέλεκυς. See Plot. *Enn.* IV 7 [2] 1, 4: ἀπλοῦν μὲν δὴ τι οὐκ ἂν εἴη ἄνθρωπος, ἀλλ' ἔστιν ἐν αὐτῷ ψυχὴ, ἔχει δὲ καὶ σῶμα, εἴτ' οὖν ὄργανον ὃν ἡμῖν, εἴτ' οὖν ἕτερον τρόπον προσηρτημένον and 1, 21; 1, 25. See also IV 3 [27] 21, 17: ὡς ἐν ὀργάνῳ φυσικῷ.

⁸⁶ Plot. *Enn.* IV 7 [2] 8^b, 4 also has σώματος ... ψυχικοῦ ὀργανικοῦ δυνάμει ζωὴν ἔχοντος in the transmitted text! This reading is certainly not a 'Schreibfehler', as R. Harder notes *ad loc.*

⁸⁷ S. Everson, *Aristotle on perception* (Oxford 1997) 64-65. For criticism of this idea, see J. Barnes, *Class. Rev.* 49 (1999) 121.

⁸⁸ In *Anim.* I 4, 408a17 Aristotle criticizes Empedocles because his theory of the soul as a principle of 'mixture' means that there must be many souls in one living creature, since the various parts of the living creature have various ratios of mixture.

⁸⁹ Cf. *Gener. anim.* II 1, 734b27-28: ὅμα δὲ τὰ ὁμοιομερῆ γίγνεται καὶ τὰ ὀργανικά.

⁹⁰ *Part. anim.* II 1, 647a2-6: ὄντων δὲ τῶν μὲν ὀργανικῶν μερῶν τῶν δ' αἰσθητηρίων ἐν τοῖς ζώοις, τῶν μὲν ὀργανικῶν ἕκαστον ἀνομοιομερές ἐστιν ... ἡ δ' αἰσθησις ἐγγίγνεται πᾶσιν ἐν τοῖς ὁμοιομερέσι ...

(4) This definition would not be applicable to the celestial beings, since Aristotle denies that they possess ‘organs’ for locomotion,⁹¹ and therefore the definition would not fulfil the condition of being as general as possible.⁹² (In *De anima* I 1 Aristotle gave the impression that he would involve all living beings, including the celestial gods, in his investigation.⁹³) But the fifth element could very well be seen as the ‘instrumental body’ of the soul of these celestial beings⁹⁴.

(5) This interpretation of ‘*organikon*’ is subject to the criticism which Aristotle voices in *De anima* I 3, 407b24-26 against Plato and the Pythagoreans: ‘(it is just as strange to assert that the art of carpentry enters into flutes.) For art must use its instruments, and the soul its [instrumental] body’⁹⁵.

(6) Another objection to the standard interpretation was recently highlighted by J. Hübner. The standard interpretation assumes that Aristotle’s notion of the soul as ‘first entelechy’ in *De anima* II 1 indicates that the soul is present as a ‘disposition’. Hübner objects that in a living organism the vegetative soul is not present as a disposition but in act.⁹⁶ Unlike Hübner, I believe that Aristotle does speak about the presence of the soul as a ‘disposition’.⁹⁷ Precisely this allows Aristotle to postulate that a soul is also present in the sperm

⁹¹ *Cael.* II 8, 290a29-b8. Cf. Philop. *In De an.* 239, 37-38. Cf. S. Broadie, *R.Ph.Fr.* 118 (1993) 392-393.

⁹² *Anim.* II 1, 412a5: τίς ἂν εἴη κοινότητος λόγος αὐτῆς. Cf. 412b4: εἰ δέ τι κοινὸν ἐπὶ πάσης ψυχῆς δεῖ λέγειν... and b10: καθόλου μὲν οὖν εἴρηται τί ἐστὶν ἡ ψυχὴ. See also I 1, 402b5.

⁹³ *Anim.* I 1, 402b5-8.

⁹⁴ As is emphatically the case in Hipp. *Haer.* VII 23, 7-24, 1-2, where Hippolytus discusses the great cosmic Archon of the ethereal sphere in the theology of the Gnostic Basilides. However, Simpl. *In De an.* II 87, 6-7 denied this possibility: ὀριστικὴ μὲν οὖν καὶ ἡ οὐρανία ψυχὴ τοῦ αἰδίου σώματος, ἀλλ’ οὐ νεύουσα πρὸς αὐτὸ οὐδ’ ὡς ὀργάνῳ αὐτῷ χρωμένη. But a factor here is that he interpreted the ‘instrumental body’ in a way that belies Aristotle’s intention.

⁹⁵ I have discussed this point in chapter 4 above. The final lines of *Anim.* I 3 make it necessary to assume that Aristotle is talking there about a body which is an *instrument* of the soul.

⁹⁶ J. Hübner, ‘Die Aristotelische Konzeption der Seele als Aktivität in *de Anima* II 1’, *A.G.Ph.* 81 (1999) 1-33, pp. 5; 8. To solve this problem, Hübner offers an alternative interpretation of *De anima* II 1, 412a22-28 on pp. 22-29. The problem is set out very lucidly by G. Movia (1979) 59, who notes that Aristotle’s definition could lead to a conception of ‘l’esistenza anteriore e indipendente di un corpo potenzialmente vivente e fornito di organi, nel quale l’anima sopraggiungerebbe in un secondo momento’ (my italics).

⁹⁷ Namely in *Anim.* II 1, 412a23-26.

(of animals) and the fruits (of plants).⁹⁸ But this soul only realizes its vegetative function when the fruit (for instance a grain of corn) is planted in suitable soil, and when the sperm is united with menstrual blood in the suitable environment offered by a uterus. *Sperma* and *karpos* are not in fact living organisms. They are, however 'composite substances' consisting of a soul-principle as *eidos* and a *sôma physikon* which is available to the soul as an 'instrument'.

(7) We need to emphasize that the definition of the soul in *De anima* II 1 cannot, in the traditional explanation, be applicable to the soul as discussed by Aristotle in *De generatione animalium* II 3, when he says that the *dynamis* of every soul has something of a 'different, more divine *sôma* than the so-called elements'.⁹⁹ But the interpretation of 'organikon' which I am proposing would agree very well with this. While in *De anima* II 1, 412b4 Aristotle posits as a common description of *every soul* that it is 'the first entelechy of a natural body which is organikon', he says in *De generatione animalium* II 3, 736b29 that 'the power of *every soul* is connected with another and more divine element than the so-called elements'.

(8) Had Aristotle defined the soul in II 1 as the entelechy of a body equipped with organs, this definition would be immediately liable to the criticism of II 2, 413a13-20, where Aristotle says that a definition should also indicate cause.¹⁰⁰

(9) This interpretation disregards the fact that in *De motu animalium* chapter 10 Aristotle speaks about a 'natural body' which is 'organon' of the soul in a very special sense¹⁰¹ and that the same *organon sômatikon* is also referred to in *De anima* III 10, 433b19.

⁹⁸ *Anim.* II 1, 412b27! Hübner (1999) 27 claims in n. 77 that sperm and fruit do not 'potentially possess life'.

⁹⁹ *Gener. anim.* II 3, 736b29: Πάσης μὲν οὖν ψυχῆς δύναμις ἑτέρου σώματος ἔοικε κεκοινωνηκέναι καὶ θειοτέρου τῶν καλουμένων στοιχείων. P. Moraux, 'À propos du νοῦς θύραθεν chez Aristote', *Autour d'Aristote* (Louvain 1955) 275 with n. 53 wrongly connects δύναμις with ἑτέρου σώματος.

¹⁰⁰ Cf. F. Ricken, 'Zur Methodologie von Aristoteles *De anima* B 1-3', *Bijdragen* 59 (1998) 391-405. But the end of II 2 makes it clear that Aristotle in II 2 is only explaining the term *sôma organikon* in the definition of II 1!

¹⁰¹ The instrumental role of the innate *pneuma* is well summed up in C.R.S. Harris, *The heart and the vascular system in ancient Greek medicine* (Oxford 1973) 165: 'Not only was it responsible for the differentiation of the parts of the developing embryo, it was also the vehicle of the innate heat and the instrument of the generative soul, and it was at the same time the channel by which sensations reached the heart, and the instrument by which the soul or vital principle effected the pushing and pulling entailed in the movement of the limbs'.

(10) If Aristotle in his final definition had wanted to characterize the visible body of plant, animal, or human being as ‘instrumental’ to the soul, his definition would have been too broad, because he would not have separated the elementary bodies from the group of ‘natural bodies’.

(11) Finally, the reference in *De sensu* 1, 436a1 to the *De anima* indicating that this earlier work provides a definition of the soul in itself (περὶ ψυχῆς καθ’ αὐτὴν διώρισται) is strange if Aristotle had wanted to postulate an indissoluble unity of the soul with the visible body in *De anima*.

B. We should therefore seriously consider that ‘*organikon*’ is to be translated here in the way briefly suggested by R. Bolton: ‘another possible rendering is “a body which serves as an instrument”’.¹⁰² In that case Aristotle means by the final formulation of his definition of the soul: ‘the soul is the first entelechy of a natural body [which potentially possesses life and] which serves as an instrument (*organon*) of the soul’¹⁰³. It can well be argued that Plotinus paraphrased the expression *sōma physikon organikon* by the words *organon physikon*.¹⁰⁴ In *De partibus animalium* Aristotle says exactly the same in different words, when he observes that fire or heat is the most serviceable (ὑψηρετικώτατον) of all bodies, and has the function which the saw or drill has for the carpenter.¹⁰⁵ The same idea determines *De generatione et corruptione* II 9, where Aristotle blames the materialists for attributing ‘too instrumental powers’ to the ordinary elements. For they disregard the most important principle of explanation, ‘the essential form’. Their explanation of the generation of things in nature can be compared with the view that a saw and a drill produce

¹⁰² R. Bolton, ‘Aristotle’s definition of the soul. *De anima*, II, 1-3’, *Phronesis* 23 (1978) 275 n. 6. But Bolton opts for the standard view ‘a body with organs’, because ‘412a28-b4 strongly supports it’. I noted in chapter 2 that M.C. Nussbaum, ‘The text of Aristotle’s *De anima*’, *Essays on Aristotle’s De anima*, ed. by M.C. Nussbaum and A. Oksenberg Rorty (Oxford 1992) 6 has the remarkable double interpretation: ‘a natural tool-like body, or body equipped with useful tool-like parts’.

¹⁰³ This hypothesis was presented earlier in G. Reale, A.P. Bos, *Il trattato Sul cosmo per Alessandro attribuito ad Aristotele* (Milano 1995) 288.

¹⁰⁴ Cf. Plot. *Enn.* IV 3 [27] 21, 15-17: Εἰ οὖν κατὰ τὸ παράδειγμα τὸ τοῦ κυβερνήτου τοῦ ἐνδύντος πρὸς τὸν διακα θείμεθα τὴν ψυχὴν ἐν τῷ σώματι εἶναι ὡς ἐν ὀργάνῳ φυσικῷ (Throughout this chapter Plotinus is strongly influenced by Alexander of Aphrodisias.) Besides Arist. *Anim.* II 1, Plotinus clearly has *Anim.* I 3, 407b13-26 in mind

¹⁰⁵ *Part. anim.* II 7, 652b9-16.

a bed.¹⁰⁶ But indeed the elements in themselves act on each other in a way which is inferior to that of instruments.¹⁰⁷ So Aristotle is not saying here that a natural body does not possess instrumental powers, but that it does not possess them if it does not serve a soul-principle.

As a curiosity, we can add that on one occasion Eusebius of Caesarea quotes Plotinus as rendering the definition of the soul in *De anima* by *sôma psychikon organikon*.¹⁰⁸

Taking all the information into account, we must conclude that the words *sôma physikon organikon* in Aristotle refer to a special body within the visible body of a living creature, and specifically to the *pneumatikon sôma* or *pneuma* (or its analogues in lower kinds of animals and plants¹⁰⁹). In that case Aristotle means that the entire mass of the vegetable, animal, or human body which is taken in as food and integrated in the embryo is the matter which is processed by the soul's instrument (i.e. *pneuma*) to form the shell of the fine-material *pneuma*.¹¹⁰ Inasmuch as Aristotle holds that 'the *dynamis* of every soul has something of the astral element',¹¹¹ he can also argue

¹⁰⁶ *Gener. corr.* II 9, 335b29-336a14. In 336a1 we read: "Ἐτι δὲ καὶ τὰς δυνάμεις ἀποδιδοῦσι τοῖς σώμασι, δι' ἃς γεννῶσι, λίαν ὀργανικῶς (with variant ὀργανικᾶς), ἀφαιροῦντες τὴν κατὰ τὸ εἶδος αἰτίαν (text C. Mugler 1966). C.J.F. Williams, *Aristotle's De generatione et corruptione*, transl. with notes (Cambridge 1982) 185 is right saying that the text is difficult. But we can understand the criticism that the pre-Socratics gave the elementary bodies a function as 'instrument' without indicating a user of this instrument

¹⁰⁷ *Gener. corr.* II 9, 336a12: ἀλλὰ πῶς κινεῖ οὐχ ὁρῶσιν, ὅτι χεῖρον ἢ τὰ ὄργανα. For C.J.F. Williams (1982) 185 this passage is even more thorny than the previous one. But clearly Aristotle means that a real instrument, in the hand of a craftsman, functions in a measured way.

¹⁰⁸ Eus. *P.E.* XV 10, 1, where Plot. *Enn.* IV 7 [2], 8⁵, 4-5 is cited. It may be that Eusebius here has used Eustochius' text edition. Cf. É. des Places, *Eusèbe de Césarée, La préparation évangélique, livres XIV-XV* (Paris 1987) 293.

¹⁰⁹ Precisely the fact that Aristotle wants to give a definition of soul which includes the soul of plants means that he cannot talk about *pneuma*, but must use the general term 'instrumental body' to denote the 'body which receives the soul'. In *Anima*. II 8, 420b20 he clearly presupposes the doctrine of *pneuma* as the source of vital heat and refers to the *Parva naturalia* for a more detailed account.

¹¹⁰ This is the problem which Aristotle deals with in *Gener. anim.* II 1, 733b23ff. Cf. A.L. Peck, *Aristotle, Generation of animals* lix: 'It is this *pneuma*, and the substance (φύσις) in the *pneuma*, which is the vehicle of Soul, and it is *pneuma* which Soul uses as its "instrument", through which it brings about κίνησις, both in moving the full-grown body and in "moving", i.e. developing the embryo. Here, then, we have reached the heart of the business: *pneuma* is the last physical term of the series: *pneuma* is the immediate instrument of Soul, and it is through *pneuma* first of all that Soul expresses itself'.

¹¹¹ *Gener. anim.* II 3, 736b29-31.

that the celestial spheres (partly) bring about everything that comes to be and passes away¹¹².

Note, too, that the body of which the soul is the first entelechy must obviously be present for the soul from the time of conception. This is another reason to reject the reading 'equipped with organs', since there are no distinct organs in the embryonic phase, let alone that the soul can be called the *entelechy* of the fully grown body of a horse or a human being, of which there is no sign at the time of conception.¹¹³ If soul is present as the first entelechy in a fertilized egg, and the soul is inseparably linked with a *sôma organikon*, the *sôma organikon* cannot be a 'body equipped with organs' but must be a special 'instrumental organ'.¹¹⁴

De anima III 10 also presupposes an 'organon sômatikon' of the soul

I have now interpreted the definition of the soul in *De anima* II 1 on the basis of the theory of *De motu animalium*, chapter 10 about *pneuma* as the soul's 'instrument' in animals and human beings. This approach is supported by *De anima* III 10, where Aristotle accepts exactly the same theory that he used in *De motu animalium*.¹¹⁵ The subject in III 10 is the activity of locomotion as a result of *orexis*.¹¹⁶ This complex phenomenon requires the distinction of three factors:

¹¹² Cf. Damascius, *In Phd.* 180, 22-23 (Norvin) = Arist. *Philos.* fr. 22b Ross; 854 Gigon.

¹¹³ *Gener. anim.* II 6, 741b37 says clearly that the parts of the embryo are differentiated by *pneuma*, i.e. the ensouled *pneuma* exists before the various organs or instrumental parts of the visible body: διορίζεται δὲ τὰ μέρη τῶν ζῴων πνεύματι. Cf. II 4, 740b29-34: ἡ τῆς θεραπευτικῆς ψυχῆς δύναμις ... χρωμένη οἷον ὀργάνοις θερμότητι καὶ ψυχρότητι ... συνίστησι τό φύσει γινόμενον. Cf. on this A. Code, 'Soul as efficient cause in Aristotle's *Embryology*', *Philos. Topics* 15 (1987) 51-59; repr. in L.P. Gerson (ed.) *Aristotle. Critical Assessments* (London 1999) vol. II 297-304, p. 301.

¹¹⁴ C. Witt, 'Hylomorphism in Aristotle', *Apeiron* 22 (1989) 141-158 formulates the dilemma of J.L. Ackrill on p. 155: 'if an organ can perform its function, then it is alive, and if it cannot, then it is not an animal part strictly speaking', and then feebly proposes: 'I resolve this dilemma of Ackrill's by arguing that the parts of an animal are not alive in the same way that the composite is; in fact they are only potentially alive'.

¹¹⁵ See earlier P. Gohlke, *Die Entstehung der aristotelischen Prinzipienlehre* (Tübingen 1954) 57-63; 87-91.

¹¹⁶ This is anticipated in *Anim.* I 3, 406b24: "Ὅλως δ' οὐχ οὕτω φαίνεται κινεῖν ἡ ψυχή τὸ ζῶον, ἀλλὰ διὰ προαιρέσεώς τινος καὶ νοήσεως. In his commentary *ad loc.* G. Rodier (1900) vol. II 87-90 makes it clear how many problems the traditional interpretation of Aristotle has with the theory of the movement of living creatures.

(1) that which causes movement; (2) the instrument by which movement is brought about; and (3) that which is moved.¹¹⁷ That which is moved, (3), is the concrete living creature. That which causes movement, (1), is (a) the object of desire and (b) the desiring subject. But Aristotle goes on to add: 'The instrument by which desire produces movement (2), must be somatic'.¹¹⁸ This passage has often been dismissed as inconsistent with the rest of *De anima*. But the words which directly follow it: διὸ ἐν τοῖς κοινοῖς σώματος καὶ ψυχῆς ἔργοις θεωρητέον περὶ αὐτῶν, clearly show that Aristotle finds his deepest motive here for taking a different view of the soul from Plato. In a recent article M. Canto-Sperber has lucidly demonstrated that *De anima* III 9-11 agrees entirely with the position of *De motu animalium*.¹¹⁹

The traditional hylomorphistic interpretation of Aristotle's psychology by Alexander of Aphrodisias is based on his refusal to interpret *orexis* as an aspect of a body.¹²⁰ He regards 'the striving and desiring *dynamis* of the soul' purely as a power of the incorporeal soul. This is a throwback to a Platonistic view of the soul, though Alexander accepts that the soul is not self-moving but unmoved.

We have to conclude that Aristotle in *De anima* adopts entirely the same view of the movement of a living creature as in the broader exposition of *De motu animalium*, where he holds *pneuma* to be the instrument of the soul. Moreover, *De anima* II 8 explicitly uses the concept of *pneuma* as the vehicle of vital heat.¹²¹ A serious

¹¹⁷ *Anim.* III 10, 433b13.

¹¹⁸ *Anim.* III 10, 433b19: ὃ δὲ κινεῖ ὄργανον ἢ ὄρεξις, ἥδη τοῦτο σωματικόν ἐστιν. Cf. C. Lefèvre (1972) 165-167; J.B. Skemp, "'Ορεξις in *De anima* III, 10', G.E.R. Lloyd; G.E.L. Owen (eds) *Aristotle on mind and the senses* 181-189. The definition of anger as ζέσις τοῦ περὶ τὴν καρδίαν αἵματος ἢ θερμοῦ in *Anim.* I 1, 403a31 effectively presupposes the same doctrine of *pneuma*. Likewise in I 3, 406b24-26.

¹¹⁹ M. Canto-Sperber, 'Mouvement des animaux et motivation humaine dans le livre III du *De anima* d'Aristote', *Études philos.* (janv. 1997) 59-96, 60 ff. Unfortunately, however, she interprets τὸ ὀρεκτικόν as 'faculté désirante', although Aristotle says emphatically in *De anima* III 10, 433b16 that the ὀρεκτικόν should be explained as κινεῖν καὶ κινούμενον and that τὸ ὀρεκτικόν itself is therefore the *organon somatikon* ὃ κινεῖ ἢ ὄρεξις (433b19). Because τὸ ὀρεκτικόν is described in 433b16 as κινεῖν καὶ κινούμενον, we shall have to follow E. Barbotin and read in *Anim.* III 10, 433a21: ἐν δὲ τὸ κινεῖν πρῶτον τὸ ὀρεκτόν and not ὀρεκτικόν, as W.D. Ross and M. Canto 61 propose. On this passage, see M. Canto-Sperber, 'Le rôle de l'imagination dans la philosophie aristotélicienne de l'action', C. Viano (ed.), *Corps et âme* (Paris 1996) 444 with n. 3.

¹²⁰ Alex. Aphrod. *Anim.* 106, 15-17: ἔστι δὲ ἡ ὁρμητικὴ καὶ ἡ ὀρεκτικὴ δύναμις τῆς ψυχῆς, καθ' ἣν τὰ ζῶα κινεῖται. αὐτὴ γὰρ τοῖς ζῴοις τῆς οἰκείας κινήσεως αἰτία.

¹²¹ *Anim.* II 8, 420b20-21.

consideration of these texts cannot take *De anima* as the crown witness for a conception completely incompatible with the bio-philosophy of the biological works.

The passage which has encouraged the mistake: De anima II 1, 412b1-4

Anyone who reads the text of *De anima* II 1 up to 412b1 cannot take 'organikon' in 412a28 to mean anything but 'instrumental'. Why, then, has everybody always opted for the interpretation 'equipped with organs'? The answer was already given by R. Bolton, whom I quoted above as saying: '412a28-b4 strongly supports it'¹²². It cannot be denied that this passage seems to justify the traditional explanation. The text says: 'The parts of plants are also instruments (*organa*), but in a very basic sense, etc.'¹²³. Because Aristotle speaks about parts of a plant as '*organa*', scholars were apt to interpret the *sôma organikon* mentioned earlier as referring to a '*sôma* consisting of instrumental parts'. But the preceding passage is not about parts of a body but about an entire body which is *organikon*. And we have already established that Aristotle never used '*organikon*' in the sense of 'equipped with organs' but always in the sense of 'instrumental', 'serving as an instrument'. If I am right in this point, the conclusion must be that there is something strange in the reasoning of 412b1-4. This may be due to a transition in Aristotle's train of thought which is not evident to us at first sight. But it may also be that these lines form a later addition

If Aristotle in fact said that the soul is to be defined as the first entelechy of a natural body which potentially possesses life and is instrumental for the soul, he meant that the soul of, for instance, a human being has a special soul-body which is its instrument for moving the arms and legs and turning the head etc. But this special soul-body is also the soul's instrument for hearing and seeing and

¹²² R. Bolton (1978) 275 n. 6.

¹²³ *Anim.* II 1, 412b1-4: "Ὀργανὰ δὲ καὶ τὰ τῶν φυτῶν μέρη, ἀλλὰ παντελῶς ἀπλᾶ, οἷον τὸ φύλλον περικαρπίου σκέπασμα, τὸ δὲ περικάρπιον καρποῦ· αἱ δὲ ῥίζαι τῷ στόματι ἀνάλογον· ἅμφω γὰρ ἔλκει τὴν τροφήν. Cf. *Gener. anim.* I 2, 716a23: ἐπεὶ δὲ δυνάμει διώρισται καὶ ἔργῳ τινί, δεῖται δὲ πρὸς πᾶσαν ἐργασίαν ὀργάνων, ὅργανα δὲ ταῖς δυνάμεσι τὰ μέρη τοῦ σώματος, where it is emphatically stipulated that the parts of the (visible) body are 'instruments'. Cf. also I 4, 717a12: τῶν σπερματικῶν ὀργάνων and *Inc. anim.* 15, 713a4: τὰ ἐν τῷ ὑγρῷ νευστικά, ὅσα αὐτῶν δι' ὀργάνων τὴν ἐπὶ τοῦ ὑγροῦ ποιεῖται τὴν πορείαν.

tasting, for which the soul also uses eyes and ears and tongue. The soul itself, by means of its instrumental body, produces the entire concrete visible body with all its parts, each of which has its own task and function.

We could therefore surmise that Aristotle took the special soul-body to be the soul's instrument *par excellence*, and, next, regarded all parts of the visible body as instruments of the substantial unity of soul-principle-and-soul-body. In the same way Aristotle called the hand the instrument of instruments.¹²⁴ For the hand is able to take and use a wide range of instruments.¹²⁵ It may be that Aristotle followed this line of reasoning. We could conjecture that Aristotle had these considerations in his mind and then realized that the relation of the soul as user and operator of the visible body (by means of its instrumental body) was immediately clear with regard to human beings and animals, but not with regard to plants. However, he wanted to involve the entire plant world in his discussion, because he regarded the *anima sensitiva* and the *anima rationalis* as founded in the *anima vegetativa*. The train of thought would then run as follows:

(a) the soul is the first entelechy of a natural body which potentially possesses life and is instrumental for the soul;

[(b) By means of this instrumental body the soul uses all parts of the visible body as instruments.]

(c) And this applies [not only to the visible bodies of human beings and animals but] also to those of plants: the parts of plants, too, are instruments [namely of an *anima vegetativa*], but in a very basic sense, for instance the leaf protects the pericarp and the pericarp the fruit. And the roots are the analogue of the mouth [of animals and human beings]. For both take in nourishment.

Perhaps Aristotle short-circuited the train of thought from (a) via (b) to (c) by omitting proposition (b).

But this is not entirely satisfactory. We will have to consider the possibility that the passage 412b1-4 is a marginal addition,¹²⁶ a result

¹²⁴ *Anim.* III 8, 432a1: ὥστε ἡ ψυχὴ ὡσπερ ἡ χεὶρ ἐστίν· καὶ γὰρ ἡ χεὶρ ὄργανόν ἐστιν ὀργάνων.

¹²⁵ *Part. anim.* IV 10, 687a10: αἱ μὲν γὰρ χεῖρες ὄργανόν εἰσιν. See also *ibid.* a20; b1-5.

¹²⁶ Cf. G. Picht, *Aristoteles, De anima* 325: 'Der Satz über die Organe der Pflanzen ist lediglich eine eingeschobene Anmerkung, die zeigen soll, dass und warum der Begriff 'organischer Körper' auch auf die Pflanzen angewendet werden kann. Vermutlich handelt es sich um eine jener eingeschobenen Randnotizen, wie sie uns im Text des Aristoteles öfter begegnen'.

of the preceding text being read through the eyes of Alexander of Aphrodisias.¹²⁷ The passage may have been prompted by the term ‘*organikon*’, which later on (from the time of Philo of Alexandria or earlier) came to be used for the bodies of animals and human beings differentiated by instrumental parts, *but not for plants*.¹²⁸ A reader may have added the comment to make it clear that the term *organikon* *sôma* relates analogically to plants too.¹²⁹ And *De anima* II 4, 416a3 may also have inspired the addition by speaking about the analogies in nature between parts with comparable functions. Aristotle discusses *organa* there, but compares ‘instruments’ with their functions.¹³⁰

The assertion in the passage 412b1-4 regarding the analogy between the mouth of an animal or human being and the roots of a plant is suitably Aristotelian.¹³¹ But it is not Aristotelian to regard the root of a plant or the skin of a fruit as the instrument of a plant-soul. The only instrumental body used by a plant-soul is ‘vital heat’ or ‘vital fire’.¹³² The passage in question is irrelevant here because Aristotle is discussing the *one* instrumental body by means of which the soul forms the visible body and all its parts and through which the soul is able to use the parts of this body.¹³³

¹²⁷ Remember that, in connection with Aristotle’s definition of the soul, there is no trace of the interpretation ‘equipped with organs’ before the time of Alexander of Aphrodisias.

¹²⁸ Cf. Philo *Leg.* I 4; *Ebr.* 111; *Opif.* 102; *Sacr.* 98.

¹²⁹ The misinterpretation of τῶν μερῶν in 412b18 (as ‘parts of the body’ instead of ‘parts of the soul’) may also have played a role.

¹³⁰ *Anim.* II 4, 416a3: οὐ γὰρ τὸ αὐτὸ πᾶσι τὸ ἄνω καὶ κάτω καὶ τῷ παντί, ἀλλ’ ὡς ἡ κεφαλὴ τῶν ζώων, οὕτως αἱ ῥίζαι τῶν φύτων, εἰ χρὴ τὰ ὄργανα λέγειν ἕτερα καὶ ταῦτα τοῖς ἔργοις. H. Bonitz, *Index* 667a25 wrongly gives the impression that *Meteor.* IV 10, 388a20 also mentions the parts of plants as *organa*. Aristotle emphasizes the effective structure of plants in *Phys.* II 8, 199a24: καὶ ἐν τοῖς φυτοῖς φαίνεται τὰ συμφέροντα γιγνόμενα πρὸς τὸ τέλος, οἷον τὰ φύλλα τῆς τοῦ καρποῦ ἔνεκα σκέπης. ὥστ’ ... καὶ τὰ φυτὰ τὰ φύλλα (ποιεῖ) ἔνεκα τῶν καρπῶν καὶ τὰς ῥίζας οὐκ ἄνω ἀλλὰ κάτω τῆς τροφῆς and b9: καὶ ἐν τοῖς φυτοῖς ἐνεστί τὸ ἐνεκά του, ἥττον δὲ διήρθρωται. It is clear in 199a24-29 that leaves and roots are *products* of the growing plant, that is to say, of the soul in combination with its instrumental body, which is the efficient cause of nourishment.

¹³¹ Cf. *Iuv.* 1, 468a9: ἀνάλογον γὰρ εἰσιν αἱ ῥίζαι τοῖς φυτοῖς καὶ τὸ καλούμενον στόμα τοῖς ζώοις, δι’ οὗ τὴν τροφήν τὰ μὲν ἐκ τῆς γῆς λαμβάνει, τὰ δὲ δι’ αὐτῶν.

¹³² Cf. *Part. anim.* IV 10, 686b23-687a2.

¹³³ If we decide to regard 412b1-4 as a later addition by a reader from the time of Alexander of Aphrodisias or later, the passage 412a14-15: ζῶην δὲ ... φθίσιν could be attributed to the same reader. In both cases there is no break in the context if the passages are deleted.

A cybernetic instrumentalist psychology

My hypothesis is therefore this: Aristotle's main point of criticism of Plato is that he combined the incorporeal soul with a body without doing justice to the fact that the soul itself undergoes a development and therefore has a potentiality, a being-in-potency, which is only actualized in the course of time. And Plato did not postulate an efficient principle besides the formal and material principles. Aristotle noted that this leaves unexplained the entire biotic process which for instance a cat goes through from its earliest youth to old age. Aristotle therefore introduced the wholly new idea that the soul is inseparably connected with a very special body which is capable of carrying out the master plan of which the soul is the blueprint, because this body is directed to that end. So the special soul-body differs essentially from all non-ensouled natural bodies. In his definition of 'soul' Aristotle says that the formal cause and the efficient cause in everything generated in the sphere of living nature, though clearly to be distinguished, are inextricably connected and together opposed to the material cause, which they transform into the visible body. It is this special body which as the instrumental body of an *anima vegetativa* can be referred to as 'productive' (*gennètikon*) and 'nutritive' (*threptikon*); and if it is the instrumental body of an *anima sensitiva* as 'sensitive' (*aisthètikon*); and if it is the instrumental body of an *anima locomotiva* as 'appetitive' (*orektikon*). Aristotle explains these different terms with reference to different degrees of 'purity' of *pneuma*. This conception is not hylomorphistic in the traditional sense. It is best described as 'instrumentalism', specifically 'cybernetic instrumentalism'.¹³⁴

This hypothesis has a number of consequences.

(1) For Aristotle an ensouled being is not just the fully formed, later the fully grown animal, but the sperm (seed) of animals or the fruit (of a plant) is already an entity with soul.¹³⁵ For both the sperm

¹³⁴ True enough, Aristotle interpreted the soul's relation to its instrumental body 'hylomorphistically'. But he added the important proviso that the 'form' should perhaps be compared with 'the sailor' of a ship (*Anim.* II 1, 413a8-9). One could in fact speak of 'hylomorphistic instrumentalism'. But in view of the misunderstandings connected with the term 'hylomorphism' during seventeen centuries, it seems better not to use this term for Aristotle's psychology for the time being.

¹³⁵ Cf. *Gener. anim.* II 3, 736a33: οὐδὲν γὰρ ἦντον τὰ τε σπέρματα καὶ τὰ κῆματα τῶν ζώων ζῆ τῶν φυτῶν. The same is implied in *Anim.* II 1, 412b25-27: ἔστι δὲ οὐ τὸ

and the fruit are capable of growing by absorbing food and transforming the absorbed food in such a way that various parts of a visible body become distinguishable and recognizable, and so can be used for activities of the soul. Aristotle infers from this that sperm must necessarily contain the nutritive soul but, when it is the sperm of animals or human beings, also, the higher parts of the soul, although still in potentiality.

By contrast, those who believe that the soul is the entelechy of a body 'equipped with organs' must postulate that sperm and embryos are not with soul and do not possess life.¹³⁶ But in that case Aristotle's *De generatione animalium* must be left out of consideration altogether. For Aristotle holds that discharged semen is the somatic vehicle of a soul-principle and it does not become a living creature by being connected with menstrual blood but menstrual blood is the first matter to which the psychic *pneuma* of the sperm gives form in accordance with the structural plan which the soul is.

(2) However, the soul is present in sperm (of animals and men) only as a 'first entelechy', as if it were in a dormant state (cf. *Anim.* II 1, 412a24): the higher functions or parts of the soul are not yet manifest, but appear only in later phases, when the *pneuma* has turned the absorbed food into suitable and manageable, integrated parts of its own body, so that the soul's activities can be realized.

(3) Aristotle can therefore speak about an 'ensouled body' in two distinct senses: (a) in the primary sense it denotes the psychic body which is *pneuma* or its analogon; and as regards the supralunary sphere, it is the psychic body which is ether; (b) in the secondary

ἀποβεβληκὸς τὴν ψυχὴν τὸ δυνάμει ὄν ὥστε ζῆν, ἀλλὰ τὸ ἔχον· τὸ δὲ σπέρμα καὶ ὁ καρπὸς τὸ δυνάμει τοιονδὶ σῶμα. There, too, Aristotle states explicitly that sperm possesses soul. This is unacceptable to the traditional hylomorphic explanation.

¹³⁶ This is in fact stated by Philop. *In De anim.* 209, 16. He there interprets σῶμα ὀργανικόν as σῶμα διωργανωμένον. A.E. Taylor, *Aristotle* (1919; repr. New York 1955) 76 explains Aristotle's definition as follows: 'What the "organic body" is to the embryo out of which it has grown, that soul is to the body itself. As the embryo grows into the actual living body, so the living body grows into a body exhibiting the actual directing presence of mind'. But Taylor should have realized that if the embryo possesses soul, the soul at this stage can only be the soul of an 'organic body *in potency*'. W.K.C. Guthrie, vol. VI 283 gets tangled up in the same problem: 'When a body potentially alive (furnished with the necessary organs etc.) exists in actuality, soul (life) is its form or entelechy', with n. 1: 'This is not to suggest that the organic body ever exists potentially...'. Taylor and Guthrie allege falsely that Aristotle could define a 'house' as 'the form of stones and beams of which a shelter is made against the weather'. An equally strange formulation is found in T. Irwin, *Aristotle's first principles* (Oxford 1988) 285: 'It follows that only the body of an actual living organism is potentially alive'. Cf. also J. Whiting (1992) 88.

sense it denotes the visible body which possesses soul through the presence and operation of both *soul* and *pneuma* or the vital heat¹³⁷. The difference between the soul and *pneuma* is that *pneuma* (or its analogon in plants) realizes in matter the immaterial form of which the soul is the blueprint and that it is the corporeal vehicle of the sensitive and intellective function of the soul of animals and human beings.¹³⁸ Aristotle thus laid the foundation for the 'hylc pluralism' of the Stoa, which distinguished *pneuma* (as the formative, ensouling body) from the visible body composed of all elements.

So if we put the problematic lines *De anima* II 1, 412b1-4 for a moment between brackets, we can observe that Aristotle in 412b4-6 sums up his argument so far by concluding that 'if we are to give a general characterization which applies to every soul', this must be: '[the soul is] the first entelechy of a natural body which is its instrument'.

The substantial unity of the soul and its instrumental body

Aristotle immediately goes on to claim that the soul and its (instrumental) body are one, just as in the object made of beeswax its form and the beeswax are one¹³⁹. Whereas Plato had seen the living creature as the (unnatural) composition of an immaterial soul and the material body, Aristotle conceived of everything that lives as a composition of a material body and a vitalizing principle, which he presents as the *unity* of an immaterial soul-principle and a *sōma* which is the

¹³⁷ Aristotle makes this very explicit in *Motu anim.* 10, 703a36-b2: ὥστε μηδὲν δεῖν ἐν ἐκάστω εἶναι ψυχὴν, ἀλλ' ἐν τινὶ ἀρχῇ τοῦ σώματος οὐσης τάλλα ζῆν μὲν τῷ προσπεφυκέναι.

¹³⁸ Cf. the texts in *Motu anim.* 10; *Part. anim.* II 7, 652b9-16 and *Anim.* III 10, 433b15-19.

¹³⁹ Aristotle may be referring here to the impression of a seal in wax, an image which he often uses. Cf. W.S. Hett 69; I.J.M. van den Bergh 96; D.W. Hamlyn; G.E.R. Lloyd, 'Aspects of the relationship between Aristotle's psychology and his zoology', M.C. Nussbaum; A. Oksenberg Rorty (eds), *Essays* (Oxford 1992) 147-167, 148 and *Anim.* II 12, 424a19, where Aristotle mentions a σημεῖον of a signet ring in wax. See also III 11, 435a2; a9. But in *Gener. anim.* I 21, 729b15 he uses a different image: οὐκ ἔστιν ἐκ τούτων τὸ γινόμενον ἐν, ἀλλ' ἢ οὕτως ὡς ἐκ τοῦ τέκτονος καὶ ξύλου ἢ κλίνης, ἢ ὡς ἐκ τοῦ κηροῦ καὶ τοῦ εἶδους ἢ σφαῖρας. A. Preus, 'Science and philosophy in Aristotle's *Generation of animals*', *J. Hist. Biol.* 3 (1970) 12 comments here: 'Aristotle simply reminds us of the distinctions made elsewhere (*de Anima* II 1, 412b7-9; *Physics* VII 3, 245b11, *et al.*)'; *Phys.* VII 3, 245b9: τὸ μὲν γὰρ σχηματιζόμενον ... οὐ λέγομεν ἐκεῖνο ἐξ οὗ ἐστίν, οἶον ... τὴν πυραμίδα κηρόν *Cael.* III 7, 305b30: ἐκ τοῦ αὐτοῦ κηροῦ γίγνεται ἂν σφαῖρα καὶ κύβος.

instrument of the soul. If the unity of the soul and its instrumental body is therefore a 'composite substance', the concrete living creature is a 'composite substance' in the second degree.

In a way which is completely consistent with this explanation, Aristotle supports the unity of the soul and its instrumental body with the example of 'the axe'.¹⁴⁰ He emphatically presents the axe as an instrument (*organon*). And he proposes that we should think of this instrument as a 'natural body'.¹⁴¹ In my view, this continuation is a compelling reason to conclude that Aristotle's definition of the soul in 412b5 also speaks about a 'natural body' as an instrument (*organon*) and not as 'equipped with organs'. An axe is in fact an 'instrument' and is definitely not 'equipped with instruments'.¹⁴² The point of this example is to make it clear that the axe's 'axeness' and its material body are inseparable. Without 'axeness' the material would not be an axe-body but at most a wax figure in the form of an axe. Aristotle is therefore saying that the 'natural body' which is the vehicle of the soul stops being the 'instrumental soul-body' if it is not connected with the soul, but that separating the soul from its instrumental body is just as impossible as separating axeness from an axe. Hence I infer that Aristotle is saying here that the 'natural body' which is the vehicle of the soul stops being the 'instrumental soul-body' when it is not connected with the soul. A ball made of beeswax also stops being a ball and is just beeswax again when it loses the form of a ball¹⁴³.

¹⁴⁰ *Anim.* II 1, 412b11-17.

¹⁴¹ *Anim.* II, 1, 412b11-12: καθάπερ εἴ τι τῶν ὀργάνων φυσικὸν ἦν σῶμα, οἷον πέλεκυς. In *Gener. anim.* II 1, 734b28 the axe is also an example of an *organon*. J. Whiting (1992) 91 claims wrongly: 'What the hypothesis that the axe is a natural body adds is the requirement that the axe be capable of chopping *on its own*' (italics by J.W.).

¹⁴² We could say that for Aristotle an axe is a *sōma technikon organikon*. Philop. In *De anim.* 219, 15 and 220, 3 acknowledges that an axe is an *organikon sōma*, but states that the entelechy of an axe is not a soul because an axe is not a *physikon sōma* (which he specifies in 220, 36 as an *empsychon sōma*). But iron and wood are most certainly 'natural bodies'. However, they are not 'instrumental for a soul'.

¹⁴³ This different approach to Aristotle's psychology removes the pseudo-problem formulated by J. Ackrill, "Aristotle's definitions of *psyche*" (1972-1973) and raised by J. Whiting, 'Living bodies', M.C. Nussbaum; A. Oksenberg Rorty (eds), *Essays* (Oxford 1992) on p. 78: '... some commentators have denied that any of an animal's matter can survive the loss of soul. On their view, Socrates' corpse is not composed of *any* of the same matter as was its living ancestor; when Socrates dies, his matter (namely the flesh and blood which constitute his bodily parts) is destroyed and is immediately replaced by the matter of his corpse'.

The unity of the parts of the soul with the instrumental body

So far Aristotle has discussed the inseparable unity of the soul and its instrumental body in general. What follows is very problematical. Aristotle states: 'What we have just said must also be considered for the parts.'¹⁴⁴ And because he immediately gives the examples of 'the eye' and 'eyesight', and goes on to draw a contrast between a sensitive *part* of the body and the entire body which is the vehicle of sensation (412b23-25), all translators conclude that these 'parts' refer to the parts of the 'natural body' (in the sense of the visible body)¹⁴⁵.

But the relevance of such a continuation of the argument remains unclear. The philosophical relevance at least of the passage 412b17-413a3 would be nil in this way. For while Aristotle starts his argument by speaking about an 'eye', he wants to establish something about 'the entire body which is the vehicle of the capacity for sensation' (412b25). So he is not concerned with a *part* of the body but with the *entire* body that is *aisthètikon* and with *aisthèsis* as a whole. And the entire body that is *aesthètikon* in combination with *aisthèsis* as a whole form the *part of the soul* which is called the *anima sensitiva*. Aristotle is concerned here with sensation as 'part of the soul', and the way in which it is inseparable from an instrumental body. In fact, Aristotle says in the conclusion of the passage 412b17-413a3: 'So it is clear the soul is inseparable from its body, or certain parts *of it* (i.e. the soul), if it has parts'.¹⁴⁶ Here, then, he is speaking about the 'parts of *the soul*' and moreover he seems to suggest that he is drawing the conclusion that some parts of the soul do not occur separately from the body *on the basis of the foregoing*.

That he regarded the theme of 'parts of the soul' as important Aristotle had already made clear in *De anima* I 1, where he had said: in the first place we must determine to what category the soul

¹⁴⁴ *Anim.* II 1, 412b17-18: θεωρεῖν δὲ καὶ ἐπὶ τῶν μερῶν δεῖ τὸ λεχθέν.

¹⁴⁵ Thus G. Rodier (1900): 'parties [de l'organisme]'; P. Gohlke (1947): 'die Körperteile'; P. Siwek (1954): 'partium [organismi]'; J. Tricot (1959): 'aux parties du corps vivant'; W. Theiler (1959): 'an den Körperteilen'; E. Barbotin (1966): 'les différentes parties du corps'; likewise R. Bodeüs (1993); R.D. Hicks, W.S. Hett, W.D. Ross, D.W. Hamlyn and J.A. Smith: 'the parts of the body'; I.J.M. van den Berg: 'our bodily parts'; G. Movia (1979) 'alle parti corporee'; H. Seidl (1995): 'auch bei den (Körper-)Teilen'. M. Bastit, 'Qu'est-ce qu'une partie de l'âme pour Aristote?', C. Viano (ed.) *Corps et âme* (Paris 1996) 14 does not mention this passage in a list of the places relevant to this subject.

¹⁴⁶ *Anim.* II 1, 413a3-5: "Ὅτι μὲν οὖν οὐκ ἔστιν ἡ ψυχὴ χωριστὴ τοῦ σώματος, ἢ μέρη τινὰ αὐτῆς, εἰ μεριστὴ πέφυκεν, οὐκ ἄδηλον. Aristotle thus summarizes his preceding argument in 412b6-17 and b17-413a3.

belongs and whether it should be counted among the things that are potential or entelechy; but subsequently also whether the soul is divided or undivided, and whether the entire soul has the same *eidos* or not.¹⁴⁷ And when he refers back to *De anima* in *De sensibus*, he condenses its content as follows: 'The soul in itself has already been dealt with and its faculties which go with each part of it'.¹⁴⁸

So we should seriously consider that 'the parts' mentioned by Aristotle in 412b18 also refer to 'the parts of the soul'. This is not wholly absurd, because Aristotle can also speak about the 'sensitive part of the soul'. We speak of 'a living creature', he says elsewhere, only when it possesses 'the sensitive part of the soul'.¹⁴⁹ This means that, in Aristotle's view, an animal does not differ from a plant because the living creature possesses certain extra parts of the visible *body* but more parts of the *soul*. If Aristotle merely means that the relationship of the eye to eyesight is the same as the relationship of the entire human (animal) body to its soul, this is a rather trivial and superfluous remark in the progression of the argument. Moreover, Aristotle is saying it in a very complicated way. His remark that 'not that which has lost soul can be described as potentially living but that which possesses soul' is difficult to place. And his conclusion about 'parts of the soul' in 413a3-5 is very curious.

Therefore, I want to examine whether the passage II 1, 412b17-413a3 can be understood as an attempt on Aristotle's part to show that 'parts of the soul', too, do not and cannot occur 'without *sôma*' (except for pure intellectuality), *including the parts which are not manifest from the beginning of the existence of an animal or a human being!* For this is an evident problem for Aristotle: if the initial phase of every living creature is vegetative and indicates only the presence of the nutritive soul, it can be easily argued that the nutritive soul forms an inseparable unity with an instrumental body, which Aristotle holds to be present in the sperm. But in what way can the sensitive soul and the rational soul be said to be connected with an instrumental body?

The starting-point was Aristotle's proposition that the soul could and must be understood as the 'first entelechy of a natural body which potentially possesses life and is instrumental'. The question

¹⁴⁷ *Anim.* I 1, 402a23-b2; cf. II 2, 413b24-27.

¹⁴⁸ *Sens.* 1, 436a1: 'Ἐπεὶ δὲ περὶ ψυχῆς καθ' αὐτὴν διώρισται πρότερον καὶ περὶ δυνάμεων ἐκάστης κατὰ μόριον αὐτῆς...'

¹⁴⁹ *Gener. anim.* II 3, 736a30: ζῶον δ' ἐστὶ κατὰ τὸ μόριον τῆς ψυχῆς τὸ αἰσθητικόν. Cf. *Anim.* II 2, 413b2.

Aristotle wants to deal with now can be rephrased as: given the proposition that the soul is the entelechy of such a *sôma*, to what extent is the sensitive part of the soul which forms part of a human or animal soul also the entelechy of the soul's natural instrumental body in the phase in which the living creature does not yet manifest itself as a sensitive creature?

To explain this, Aristotle again uses the image of an *organon*, but now a more subtle *organon* than an axe. He introduces the example of the eye, a part of the body which serves the sensitive soul¹⁵⁰ and which differs significantly from an axe in that it can be designated and recognized as an eye, even if it temporarily fails to perform the function of seeing. This means that the function of sight is inextricably connected with the material entity which the eye is, even if this function is not actualized. Although in that case the eye does not perform the function of seeing, this does not make it the same as a dead eye or a fake eye. The eye of somebody who is asleep is not an eye of which seeing is the actualized function, but neither is it an eye that has a broken relationship with seeing, nor does seeing occur without the eye. The material eye is and remains the sensory organ for seeing, even when seeing is not realized.

This example helps Aristotle to show that he can maintain his formula that the soul is the entelechy of a natural body and is inseparable from this natural body, even against the objection that the instrumental body of the soul in the embryonic phase does not seem in any way to be the instrumental body of the sensitive soul, let alone of the soul that effects motion. In other words: the *sôma physikon* which is the instrument of the soul is active from its very first phase as the *sôma gennêtikon*, i.e. as the soul's instrument for differentiating the matter supplied by menstrual blood and food and thus for producing the visible body of a plant or animal or human being. But if it is the *sôma physikon organikon* of the soul of a human being, it is not from the outset the *sôma kinêtikon*, i.e. the entity which moves arms and

¹⁵⁰ Aristotle briefly puts forward the hypothetical case that the eye is a living creature (*zôion*), i.e. an entity possessing life at least on the level of sensation. The case is purely hypothetical because the eye cannot possibly be a living creature. Indeed, according to Aristotle the eye does not 'see' or possess 'sight'. Only the soul 'sees' and 'possesses sight', but not without a *sôma organikon*, which is the vehicle of sensation. Aristotle is referring to this when he speaks in *Anim.* II 1, 412b25 about τὸ ὅλον σῶμα τὸ αἰσθητικόν. This is *pneuma* in animals and human beings (cf. *Gener. anim.* II, 6, 743b32-744b11). And seeing is not possible in every part of the visible body, but only in the eyes as the instrumental parts of the visible body whose task it is to see.

legs, or the *sôma orektikon*, i.e. the vehicle of desire; but it is *potentially* the *sôma kinêtikon* and the *sôma orektikon*. And the soul-parts of sensation, motion and desire are inseparable from the *sôma organikon*.

Aristotle argues this explicitly in *De generatione animalium* II 3, when he says that sperm and embryos not yet separated from the body of the father or the mother possess the *anima nutritiva* only potentially and only actualize it when they take in food independently. In this phase all embryos are like plants. Only at a later stage are the *anima sensitiva* and the *anima intellectualis* also realized.¹⁵¹ And the soul-parts of sensation and desire are inseparable from the instrumental body.

We should bear in mind here that, in Aristotle's view, even the potential for intellectuality, as part of the human soul, may thus be conveyed *somatically* in the act of conception, even if the realization of this potential of the soul involves the realization of an activity which does not need an instrumental body.

The hypothetical example of a living creature (an eye) with only a partial sensory faculty (namely sight) is now transposed by Aristotle to the soul-part of sensation and the entire instrumental *sôma* which is the vehicle of the *anima sensitiva*.¹⁵² For just as sight is inseparable from the eye (in the hypothetical example), so sensation as a whole is inseparable from the body which is the vehicle of sensation.¹⁵³ Here again the traditional explanation has eagerly identified the expression 'the body which is the vehicle of the faculty of sensation' with the visible body of animal and man¹⁵⁴. But once again this is very un-Aristotelian. For the eye and ear or leg and foot are not the seat of the soul, but the soul is located in a central place, the heart, as we saw in chapter 10 of *De motu animalium*.¹⁵⁵ But eyes and ears are

¹⁵¹ *Gener. anim.* II 3, 736b8-14. See in particular b12: πρῶτον μὲν γὰρ ἅπαντ' ἔοικε ζῆν τὰ τοιαῦτα φυτοῦ βίον. ἐπομένως δὲ δῆλον ὅτι καὶ περὶ τῆς αἰσθητικῆς λεκτέον ψυχῆς καὶ περὶ τῆς νοητικῆς.

¹⁵² On this theme, see at greater length A.P. Bos, 'Het gehele lichaam dat waarnemingsvermogen bezit (Arist. *De anima* II 1, 412b24-25)', *Alg. Ned. Tijdsch. v. Wijsb.* 91 (1999) 112-128.

¹⁵³ *Anim.* II 1, 412b22-25: Δεῖ δὴ λαβεῖν τὸ ἐπὶ μέρους ἔφ' ὅλου τοῦ ζῶντος σώματος· ἀνάλογον γὰρ ἔχει ὡς τὸ μέρος πρὸς τὸ μέρος, οὕτως ἡ ὅλη αἴσθησις πρὸς τὸ ὅλον σῶμα τὸ αἰσθητικόν, ἢ τοιοῦτον (A. Jannone 1966).

¹⁵⁴ See also J. Whiting (1992) 77-78. *Anim.* I 5, 409b2 is not a counter-example. Aristotle describes there the very special theory of sensation held by Democritus, who presented the entire visible body as involved in sensation. Cf. D.K. 68 B 135 and W.K.C. Guthrie, *A history of Greek philosophy* vol. II (Cambridge 1965) 442, and *Demokritos. Stoffes in het zonlicht*, translated by R. Ferwerda (Amsterdam 1998).

¹⁵⁵ In *Motu anim.* 9, 702b20 the fact that τὸ αἰσθητικόν is located in the centre of the living creature indicates that the soul is situated there too. In *Anim.* I 1, 402b13; b16; 4, 408a13; 5, 410b21 and 26 τὸ αἰσθητικόν always stands for a 'part' of

connected with the soul via *pneuma*.¹⁵⁶ 'The vehicle of the faculty of sensation' is for Aristotle the *sôma organikon*¹⁵⁷ of an animal soul or a human soul, i.e. *pneuma*.¹⁵⁸

But what is a *sôma organikon* that is a vehicle of potential life in the sense of sensation? It is a *sôma* which does not actually possess sensation. But this does not mean that a body without soul meets the description. The only body which meets the description is a *sôma physikon organikon* which possesses soul.¹⁵⁹ In support of this theory Aristotle adduces the examples of animal sperm and vegetable (seed-bearing) fruits.¹⁶⁰ These contain a soul-principle and a *sôma physikon*

the soul. Likewise αἰσθητικὴ ἀρχή in 5, 411b30. The standard interpretation of *Anim.* II 1 needs to address these entirely different views of Aristotle.

¹⁵⁶ This is also the tenor of *Anim.* I 4, 408b15-18.

¹⁵⁷ Cf. *Anim.* III 4, 429a26, which says that if the intellect were mixed with *sôma*, it would also have an 'instrument' (*organon*), like the sensitive (part of the soul): κἂν ὄργανόν τι εἴη, ὡς περ τῷ αἰσθητικῷ. See also 429b5.

¹⁵⁸ Cf. *Sens.* 2, 438b8: οὐ γὰρ ἐπὶ ἐσχάτου τοῦ ὅματος ἡ ψυχὴ ἢ τῆς ψυχῆς τὸ αἰσθητικόν ἐστίν, ἀλλὰ δηλὸν ὅτι ἐντός (on which the commentary of W.D. Ross is entirely inappropriate). See also *Mem.* 1, 450a11: τῷ πρώτῳ αἰσθητικῷ. a14; 450a28: τῷ μορίῳ τοῦ σώματος τῷ ἔχοντι αὐτήν (sc. τὴν ψυχὴν). 450b5: τοῦ δεχομένου. 451a16-17 and 2, 453a14-24; *Somn.* 1, 454a16; a23; b10; b11. In 2, 455a20-26 Aristotle talks about τὸ κύριον αἰσθητήριον, which is found in the region of the heart (456a4). *Iuv.* 3, 469a10. If we see that τὸ αἰσθητικὸν σῶμα in *Anim.* II 1 has the same function as in the above mentioned texts in the *Parva naturalia*, we will have to reject the view of I. Block (1961), who claimed: 'In the *De anima* the individual senses are the primary sense faculties and are seated in the external organs' (sic) (67; cf. p. 63; 64) and who assumed a 'radical change' in the *Parva naturalia* compared with *De anima* (67).

¹⁵⁹ *Anim.* II 1, 412b25-26: Ἔστι δὲ οὐ τὸ ἀποβεβληκὸς τὴν ψυχὴν τὸ δυνάμει ὄν ὥστε ζῆν, ἀλλὰ τὸ ἔχον.

¹⁶⁰ *Anim.* II 1, 412b26: τὸ δὲ σπέρμα καὶ ὁ καρπὸς τὸ δυνάμει τοιοῦδι σῶμα. *Gener. anim.* I 18, 724b19 is essential to a proper understanding: σπέρμα δὲ καὶ καρπὸς διαφέρει τῷ ὕστερον καὶ πρότερον. Immediately before, in 724b14, Aristotle states: σπέρμα δὲ τὸ ἐξ ἀμφοτέρων τὰς ἀρχὰς ἔχον τῶν συνδυασθέντων. (This passage should not be deleted, as A.L. Peck proposes. A new individual is generated only from sperm in this sense!) Another relevant passage is *Gener. anim.* II 1, 735a4-11, where Aristotle asks: Πότερον δ' ἔχει ψυχὴν τὸ σπέρμα ἢ οὐ; with the answer in a8: δηλὸν οὖν ὅτι καὶ ἔχει καὶ ἐστὶ δυνάμει. That is to say: sperm possesses soul and is potentiality for soul. Cf. II 3, 736a33-34: οὐδὲν γὰρ ἦττον τὰ τε σπέρματα καὶ τὰ κυήματα τῶν ζώων ζῆ τῶν φύτων. Cf. *Eth. Nic.* I 13, 1101b34. R.D. Hicks will have none of this: 'At first sight it would seem as if these, too, were potentially "possessed of life". But in fact they are not yet bodies (in the sense of the definition) at all; their potentiality is a potentiality of becoming bodies which (when developed) will be "potentially" possessed of life'. Equally mistaken is P. Moraux (1955) 262: 'il est évident que c'est en puissance que l'âme est dans le sperme, et non en acte'. M. Furth (1988) 153 calls this remark 'slightly surprising' and admits: 'There is no way of telling by what lapse of composition or transmission this irrelevancy was introduced'. Note that in II 4, 415b7 five manuscripts have the striking addition: διόπερ τὸ σπέρμα τῶν ζώων καὶ τῶν φύτων ὄργανόν ἐστι τῆς ψυχῆς. See the critical apparatus of A. Jannone. G. Rodier (1900) vol. II 230 disregards this addition, stating: 'ils

organikon of the soul-principle which is a vehicle of *potential* life, and in the case of animal or human sperm also a vehicle of *potential* sensation¹⁶¹.

It may be useful to elaborate the foregoing. After stating that the soul is the essentially determinative principle of the composite entity¹⁶² of soul-principle and soul-body, Aristotle goes on to compare this composite entity with an axe and with an eye. Then he says (412b13-15 and b20-22) that the axe is no longer an axe and the eye no longer an eye if they can no longer realize their function of chopping respectively seeing. So the conclusion must be: the composite entity of soul-principle and instrumental body can no longer be said to be a functional/instrumental body if the soul-principle is lacking. Two remarks can be made here: (a) as long as there is a realization of vital functions on the level of the vegetative through to the deliberative soul in act or potency, there is a dual unity of soul-body and soul-principle; (b) when the entelechy of the soul-body of a human soul leaves its vehicle, the body stops being an 'instrumental body', but does not thereby cease to exist. And the entelechy of man's soul-body can possess eternity and immortality free of any kind of body.¹⁶³

The last lines of this passage in Aristotle's argument (412b27-413a3) are incredibly obscure. He follows the line of the three examples which he has given, (a) the instrumental body 'axe', (b) the instrumental body 'eye', and (c) the whole body that is instrumental to the sensitive part of the soul. And he compares the situation of 'ultimate realization' with 'potentiality'. The ultimate entelechy (realization of

présentent d'une façon trop matérielle et trop littérale la comparaison de l'organe avec un instrument'. But it is hard to explain how this passage found its way into the manuscripts. The sentence can be easily interpreted as an explanation of what went before. Though the identity of a mortal creature as an individual cannot be maintained, there is continuity in the kind 'because the sperm serves the soul as an instrument'. It is easy to understand why this passage was omitted in other manuscripts, after *De anima* came to be read in the manner of Alexander of Aphrodisias. For sperm as an 'instrument' of nature, cf. *Gener. anim.* I 22, 730b19-21: ἡ φύσις ... χρῆται τῷ σπέρματι ὡς ὄργάνῳ). In *Gener. anim.* I 1, 715b25-26 Aristotle also says that plants are generated from 'seed'.

¹⁶¹ It is presumably in particular this insight into the biotic aspect of animal and human life that led Aristotle to blame his predecessors for mainly occupying themselves with the human soul, *Anim.* I 1, 402b4. These earlier philosophers showed more interest in the normative facets of human existence, and disregarded the biotic function.

¹⁶² *Anim.* II 1, 412b10-11.

¹⁶³ See chapters 6 and 14 below.

the goal) of (a) the axe is 'to cut', of (b) the eye is 'to see', and of (c) the vehicle of sensation is 'consciousness'¹⁶⁴. We would now expect three (corresponding) conditions for 'potentiality' and 'being the first entelechy' and 'being soul'. But Aristotle gives two: (b) 'the power of sight' and also 'the power of the instrument'. The latter seems to refer to (a) the axe. But in that case a corresponding condition for (c) 'the instrumental body for sensation' is lacking. The necessary solution seems to be that 'the power of the instrument' stands both for (a) and for (c), so both for (a) 'the axe's power to cut' and for (c) 'the power of sensation of the *sôma aisthêtikon*' as the *sôma organikon* of the soul. In all three cases the body is that which has the potentiality.¹⁶⁵

The nutritive soul is also connected with an instrumental body

De motu animalium talked about *pneuma* as the *sôma* which is the soul's instrument (*organon*) for effecting locomotion. But if my interpretation of Aristotle's definition of the soul in *De anima* II 1 is correct, this means that according to Aristotle *every* soul is the first entelechy of a natural body which is instrumental for the realization of the goal of which the soul forms the blueprint. This must therefore also apply to the nutritive soul (the θρεπτικὴ ψυχὴ), which is the only form of soul for plants and trees. But Aristotle says that plants and trees do not possess *pneuma*. Yet it is clear that Aristotle distinguishes as regards plants and trees in the same way as in animals and men between (a) the soul as the principle of movement (growth and decay in this case), (b) the visible body of the plant or tree, and (c) a mediating entity analogous to *pneuma* in the higher animal species. In his analysis of the nutritive process in *De anima* II 4 he first notes

¹⁶⁴ It is crucial to see that ἐργήγορσις is used in a different context here compared with 412a24. In the latter passage it was contrasted with 'sleep' and used metaphorically, because it also applied to plants (which do not possess power of sensation and so do not sleep). Here ἐργήγορσις stands for the actively sensitive functioning (of animals and humans) as opposed to the active functioning of sight alone. *Somn.* 3, 456b8 had made it clear that 'waking' (like 'being conscious', 'being alert') and 'sleep' must be conditions of the 'sensitive part' of the soul. Cf. 2, 456a15-24 and 1, 454a5: δῆλον ὅτι ᾧπερ αἰσθάνεται, τοῦτω καὶ ἐργήγορε τὰ ἐργηγορότα.

¹⁶⁵ *Anim.* II 1, 412b27: ὡς μὲν οὖν (a) ἡ τμήσις καὶ (b) ἡ ὄρασις οὕτω καὶ (c) ἡ ἐργήγορσις ἐντελέχεια, ὡς δ' (b) ἡ ὄψις καὶ (a+c) ἡ δύναμις τοῦ ὀργάνου, ἡ ψυχὴ. τὸ δὲ σῶμα τὸ δύνامي ὄν.

that some earlier natural philosophers had identified the element fire as the entity which effects nutrition and growth. It is in fact plausible to some degree, says Aristotle, that fire is the principle which realizes the concrete living product.¹⁶⁶ Yet Aristotle corrects these ancient natural philosophers by declaring that fire is a subsidiary cause but not the cause as such. For that is the soul.¹⁶⁷

When analyzing the metabolic process himself, he says that three matters should be distinguished: (a) that which is fed, (b) that with which it is fed, and (c) that which feeds it. Now then, says he, that which feeds (c) is the first (most basic) soul; what is fed (a) is the body which contains that soul; and that with which it is fed (b) is food.¹⁶⁸ But he goes on to make a further distinction in 'that with which it is fed' (b). In the steering of a ship 'that with which it is steered' can be the rudder and the steersman's hand. But although the rudder makes the ship sail a good course, it is passive in relation to the steersman's hand, whereas his hand is not passive in relation to the rudder. Just so, 'that with which something is fed' is not only the food that is digested but also the *vital heat* which is the instrument for the digestion of the food.¹⁶⁹ In all that grows, 'vital heat' is in fact the instrument by which the soul causes the living creature to reach maturity.¹⁷⁰ This final further distinction is notably absent in the treatment of the *anima nutritiva* by Alexander of Aphrodisias¹⁷¹.

¹⁶⁶ *Anim.* II 4, 416a9-13: Δοκεῖ δέ τιςιν ἡ τοῦ πυρὸς φύσις ἀπλῶς αἰτία τῆς τροφῆς καὶ τῆς αὐξήσεως εἶναι· καὶ γὰρ αὐτὸ φαίνεται μόνον τῶν σωμάτων ἢ τῶν στοιχείων τρεφόμενον καὶ αὐξόμενον. Διὸ καὶ ἐν τοῖς φυτοῖς καὶ ἐν τοῖς ζώοις ὑπολάβοι τις ἂν τοῦτο εἶναι τὸ ἐργαζόμενον. The expression τὸ ἐργαζόμενον should be read here against the background of *Metaph.* A 9, 991a22: τί γάρ ἐστι τὸ ἐργαζόμενον πρὸς τὰς ιδέας ἀποβλέπων; Aristotle thus makes it clear that Platonism, with its doctrine of the Ideas and of that which takes part in the Ideas, is inadequate because it fails to identify an efficient or productive cause. Cf. also *Spir.* 9, 485a28 and *Resp.* 8, 474a28.

¹⁶⁷ *Anim.* II 4, 416a13-15: τὸ δὲ συναίτιον μὲν πῶς ἐστίν, οὐ μὴν ἀπλῶς γε αἷτιον, ἀλλὰ μᾶλλον ψυχῇ. Plato made this distinction in *Phd.* 98b7-99b4.

¹⁶⁸ *Anim.* II 4, 416b20-23. Alex. Aphrod. *Anim.* 36, 9-13 corresponds quite closely to these distinctions.

¹⁶⁹ *Anim.* II 4, 416b25: ἔστι δὲ ᾧ τρέφει διττόν, ὥσπερ καὶ ᾧ κυβερνᾷ, καὶ ἡ χεὶρ καὶ τὸ πηδάλιον, τὸ μὲν κινεῖ καὶ κινούμενον, τὸ δὲ κινεῖ μόνον. πᾶσαν δ' ἀναγκαῖον τροφήν δύνασθαι πέττεσθαι, ἐργάζεται δὲ τὴν πέψιν τὸ θερμόν· διὸ πᾶν ἐμψυχὸν ἔχει θερμότητα. Cf. C. Lefèvre (1972) 132-136, who says that these lines 'viennent, de façon assez significative, nuancer dans un sens instrumentiste divers exposés que l'on pourrait croire uniquement hylémorphiques' (136); cf. id. (1978) 25-26.

¹⁷⁰ Cf. *Resp.* 8, 474a25: τὸ ζῆν καὶ ἡ τῆς ψυχῆς ἕξις μετὰ θερμότητός τινός ἐστιν· οὐδὲ γὰρ ἡ πέψις ... οὐτ' ἄνευ ψυχῆς οὐτ' ἄνευ θερμότητός ἐστιν· πυρὶ γὰρ ἐργάζεται πάντα.

¹⁷¹ Alex. Aphrod. *Anim.* 36, 9-37, 3.

It is remarkable that Philoponus criticizes some physicians who believe that Aristotle located the faculties of the soul in *pneuma*. But he objects that *pneuma* does not satisfy Aristotle's definition of the soul if *pneuma* is not 'equipped with organs'.¹⁷²

To conclude the discussion of this crucial text, which has always formed the only textual basis for a hylomorphic interpretation of Aristotle's psychology, I reject every interpretation according to which Aristotle developed in this context the idea that the soul is the first entelechy of the visible body, equipped with organs, of a plant, an animal, or a human being and that it forms an indissoluble unity with this visible body. The correct interpretation, however, covering all the facts, should be that Aristotle formulates the idea that the soul forms the first entelechy of a natural body that is instrumental for the soul and that potentially possesses life in various degrees. And this instrumental body is *not identical* with the visible body of a plant, animal, or human being, but produces, vitalizes the visible body and uses it for locomotion and sensation and for all kinds of *praxis*. So this also means that the doctrine of 'the soul as entelechy of the body' does not imply that the soul cannot survive in any form after death.¹⁷³ This has been claimed on the basis of texts in Alexander of Aphrodisias, but Aristotle himself does not draw this conclusion anywhere in the Corpus. However, there are many doxographical reports which mention a survival of the soul¹⁷⁴ after the death of the earthly living creature according to Aristotle.

The work *De iuventute* also refers explicitly to *De anima* as the source of such a view. In chapter 1 we are told: 'Because the soul has been dealt with in detail elsewhere and it is clear that its essence cannot possibly be a *sôma*, yet it is manifestly present in some part of

¹⁷² Philop. *In De anim.* 239, 2-18 with the crucial passage in 239, 16: εἰ μὴ διωργάνωται τὸ πνεῦμα. The persons referred to here are probably identical with the 'physicians' mentioned in 19, 8.

¹⁷³ *Contra* W.K.C. Guthrie, vol. VI 284: 'This doctrine of soul as form or entelechy of the body, if rigidly maintained, is obviously a death-blow to immortality. Soul is indissolubly united with the body'. Cf. id. *The Greeks and their gods* (London 1950; repr. 1977) 369-370; id. *The Greek philosophers from Thales to Aristotle* (London 1950; repr. 1967) 145. Cf. P. Merlan, *C.H.L.G.E.M.Ph.* (1967) 39: 'Though probably not from the beginning, Aristotle denied the substantial character of the soul and, therefore, any pre- or post-existence of it, any kind of incarnation or reincarnation (transmigration)'. Against Guthrie and Merlan we can note that the unity of the soul with a special soul-body allows Aristotle to explain the soul's survival and its ascent to the heavenly regions, since locomotion belongs only to bodies.

¹⁷⁴ These texts are dealt with in chapters 13-14 below.

the body, and specifically in a part which possesses *dynamis* over the (other) parts [of the body]...'.¹⁷⁵ This is not just a reference to *De anima* II 2, 414a19, as W.D. Ross indicates *ad loc.*, but also to Aristotle's words about the 'instrumental body' in *De anima* II 1.

The unity of the soul with the instrumental body is so inseparable that Aristotle does not attribute all activities of the soul to the soul alone but to the soul inextricably connected with its instrumental body.¹⁷⁶ For man or animal or plant is soul-in-combination-with-the-instrumental-body-of-the-soul.

For plants the instrumental body is vital heat, for animals and human beings *pneuma* (in varying degrees of purity) or an analogue, and for the celestial beings the fifth element. This instrumental body is most present in the region of the heart or a comparable central place, where the soul-principle is also situated.

The lines of *De anima* II 1, 412b1-4 are to be regarded as a disruption of the text's train of thought; they are connected with the preceding in a very elliptic way or else they are the result of interpolation by a reader who misinterpreted the term '*organikon*', in the way that Alexander of Aphrodisias did. This can be explained as a weak point in my new interpretation of *De anima* II 1. I believe, however, that the above has shown that the traditional explanation of *De anima* II 1 is seriously inadequate in three points, and that it has indicated how corruption of the text could have consequently come about.

Also, the concluding lines of chapter II 1, which most ancient and modern commentators have brushed aside as totally irrelevant and absurd, may seem to be quite meaningful against the background of this new interpretation.¹⁷⁷

The final part of De anima II 2

It is now easier to understand why Aristotle seems to repeat his inquiry from the last chapter in *De anima* II 2. In II 1 he gave a definition of 'soul'. However, a definition should not confine itself to describing a factual situation, but should also explain the reason for it.¹⁷⁸

¹⁷⁵ *Iuv.* 1, 467b13-16: ἐπεὶ δὲ περὶ ψυχῆς ἐν ἑτέροις διώρισται, καὶ δῆλον ὅτι οὐχ οἶόν τ' εἶναι σῶμα τὴν οὐσίαν αὐτῆς, ἀλλ' ὅμως ὅτι γ' ἐν τινὶ τοῦ σώματος ὑπάρχει μορίῳ φανερόν, καὶ ἐν τούτῳ τινὶ τῶν ἐχόντων δύναμιν ἐν τοῖς μορίοις.

¹⁷⁶ Cf. *Anim.* I 4, 408b11-18.

¹⁷⁷ On this passage, see chapter 6 below.

¹⁷⁸ *Anim.* II 2, 413a11-20.

Aristotle now mentions four levels of 'life': (a) intellect, (b) sense-perception, (c) locomotion, and (d) nutritive activity, growth and decrease. He observes that not all levels of life belong to all that lives; and that not all forms of sense-perception belong to all living creatures.¹⁷⁹ He will explain further on 'for what reason' this is the case.¹⁸⁰ But first he asks whether these different soul-functions occupy different positions in the body of a living creature.¹⁸¹ Aristotle denies this, with reference to the fact that dissected insects are found to have the functions of sensation and locomotion in equal fashion in both parts. It is not the case that one part only moves and another part only possesses sensation. Only the intellect and the theoretical capacity (*dynamis*) of the soul seem exceptional and capable of occurring separately from the other soul-functions.¹⁸² For Aristotle this observation was a fundamental reason to posit the non-exchangeability of vegetable, animal, and human souls, and to assert that every kind of soul has its own instrumental body.

Aristotle then restates that whereas the various soul-functions, though they can be distinguished, are not locally separate in the body of living creatures, yet some living creatures possess all these functions, others a few, and still others only one, and that the number of sensory faculties also varies. This determines the distinction between the various living creatures¹⁸³

Before proceeding with the text of *De anima* II 2, we need to consider where Aristotle is heading. He must be searching for an answer to the question how, if the soul is the principle of *all* soul-functions, and if these soul-functions cannot be locally distinct from each other, one living entity lives on fewer levels and with less 'range of level' than the other.

The only answer Aristotle can give is that this depends on the quality of *that which receives the soul-principle*. It does not in fact depend on the quality of the visible body (which in plants, animals, and human beings is equally made up of the four sublunary elements) but on the quality of the soul's 'instrumental body', i.e. on the 'purity' of

¹⁷⁹ *Anim.* II 2, 413a20-b9.

¹⁸⁰ *Anim.* II 2, 413b9.

¹⁸¹ E. Barbotin (1966) 34 n. 1 sees a polemic here with Pl. *Tim.* 69d.

¹⁸² *Anim.* II 2, 413b24-27: *περὶ δὲ τοῦ νοῦ καὶ τῆς θεωρητικῆς δυνάμεως οὐθέν πο φανερόν, ἀλλ' ἔοικε ψυχῆς γένος ἕτερον εἶναι, καὶ τοῦτο μόνον ἐνδέχεται χωρίζεσθαι, καθάπερ τὸ αἰδίον τοῦ φθαρτοῦ.*

¹⁸³ *Anim.* II 2, 413b32-414a1: *"Ἐτι δ' ἐνίοις μὲν τῶν ζώων ἅπανθ' ὑπάρχει ταῦτα, τισὶ δὲ τινα τούτων, ἑτέροις δὲ ἐν μόνον, τοῦτο δὲ ποιήσει διαφορὰν τῶν ζώων.*

the *pneuma* and the 'vital heat'. In this way we can understand the various passages where Aristotle relates the difference in quality of life to the quality of the *pneuma* or the vital heat¹⁸⁴ and grasp their place in Aristotle's philosophy. A soul-body with little potentiality can never be expected to produce a living creature with a high psychic activity. The realization or entelechy always depends on matter, on that which has potentiality. But this is not the matter of which the visible body is composed but the matter making up the composite substance of the soul-principle and the soul's instrumental body. The potentiality of the soul is founded in the materiality of the soul-body. In this way Aristotle has also found a solution to the final problem of *De anima* I.¹⁸⁵ If the soul were identical to a certain element and all individual elements were to possess a small amount of it, all living creatures would have to be of the same quality and this element itself would also have to be called a living creature.¹⁸⁶ But there is a difference in quality of life between various kinds of living creatures, though the soul-parts are not locally separate. The solution by which Aristotle believes he can overcome these problems is to posit that (incorporeal) soul-principles realize various levels of life in instrumental bodies differing in quality.

The soul and that which receives the soul

Aristotle underpinned this solution in 414a4-28 by re-introducing the distinction between 'the soul' and 'that which receives the soul', which he had already used in I 3, 407b13-26. The criticism levelled there at Platonists and Pythagoreans is again at the back of his mind here and he makes it clear that his own position provides a better alternative. Aristotle now asserts: we speak about 'that by which we live and perceive' in two senses, for it may refer to (1) 'the soul' and

¹⁸⁴ Cf. *Iuv.* 19, 477a16: τὰ τιμιώτερα τῶν ζῶων πλείονος τετύχηκε θερμότητος· ἅμα γὰρ ἀνάγκη καὶ ψυχῆς τετυχηκέναι τιμιωτέρας. *Gener. anim.* II 6, 744a28: τούτου δ' αἴτιον ὅτι καὶ τὴν ἐν τῇ καρδίᾳ θερμότητα καθαρωτάτην. δηλοῖ δὲ τὴν εὐκραςίαν ἡ διάνοια· φρονιμώτατον γὰρ ἐστὶ τῶν ζῶων ἄνθρωπος. 744b11-21. II 1, 732b28; 3, 736b29-33; III 11, 761b14-15 and 762a24-26. *Part. anim.* II 2, 648a9-10: ἄριστα δὲ τὰ θερμὸν ἔχοντα καὶ λεπτὸν καὶ καθαρὸν (sc. τὸ αἷμα) and II 4, 651a15-16: πολλὴν οὖν ποιεῖ διαφορὰν θερμὸν ὄν καὶ ψυχρὸν καὶ λεπτὸν καὶ παχὺ καὶ θολερὸν καὶ καθαρὸν (sc. τὸ αἷμα). *Hist. anim.* III 19, 521a2: ἔχει δὲ λεπτότατον μὲν αἷμα καὶ καθαρωτάτον ἄνθρωπος. See also A.L. Peck, Aristotle, *Generation of animals* 584.

¹⁸⁵ *Anim.* I 5, 410b16-411b30.

¹⁸⁶ *Anim.* I 5, 411a14-16.

(2) 'that which receives the soul'. To explain, he draws a parallel with 'science' and 'that which receives science' on the one hand and with 'health' and 'that which receives health' on the other.¹⁸⁷ Aristotle is not talking here about 'that which lives' but explicitly and repeatedly about 'that *by which*' we live.¹⁸⁸

So *three* things need to be distinguished here: (B) that which lives; (A) that by which it lives, and next in (A) between that which is the cause of life for (B) in a primary sense (A1), and that which is the cause of life for (B) in a secondary sense and which receives (A1), i.e. (A2).

Diagram

| | | | |
|------|---------------------------------------|--|-----------------------------|
| (A1) | science | health | life |
| (A2) | the soul as the vehicle of science | that which receives health ¹⁸⁹ | that which receives soul |
| (B) | individual | individual | individual |

A careful reading of the passage cannot possibly lead to conclude that Aristotle is supporting a hylomorphism in the traditional sense. On the contrary, he is making it clear that a living creature is characterized as such by two things: 'the soul as formal and determinative principle' and 'a body which receives the soul-principle and of which the soul-principle is the entelechy'.¹⁹⁰ In fact the conclusion is not: 'Therefore the soul is the entelechy "of *the* (visible) body" but "of *a* body"'.¹⁹¹ And that is why he immediately goes on to state [not: '(The soul) is not a body but something of *the* body' but] '(The soul) is not a body but something of *a* body'.¹⁹²

¹⁸⁷ *Anim.* II 2, 414a4-10.

¹⁸⁸ *Anim.* II 2, 414a4: 'Ἐπεὶ δὲ ὃ ζῶμεν καὶ αἰσθανόμεθα διχῶς λέγεται ...; a12: ἡ ψυχὴ δὲ τοῦτο ὃ ζῶμεν καὶ αἰσθανόμεθα καὶ διανοούμεθα πρῶτως. Likewise in *Mem.* I, 449b30 τοῦτο ὃ αἰσθάνεται is not the 'faculty' by which we perceive, as P. Siwek (1963) 131 believes, but 'the *sōma organikon* which is sensitive'.

¹⁸⁹ *Anim.* II 2, 414a7: ὁμοίως δὲ καὶ ὃ ὑγιαίνομεν (τὸ μὲν ὑγιεῖα τὸ δὲ μορίῳ τινὶ τοῦ σώματος ἢ καὶ ὅλῳ) raises the question: what body is meant here? For the *Parva naturalia* Aristotle had planned a separate essay on health and disease (*Long.* I, 464b32), parallel with the treatise '*On sleeping and waking*'. This 'sleeping and waking' was not presented by Aristotle as a matter of the entire visible body or a part of it but as a matter of 'the sensitive part of the soul'. Presumably, therefore, Aristotle connected 'health and disease' with 'the instrumental body of the soul' in its entirety or a part of *this body*, namely the nutritive/vegetative body.

¹⁹⁰ *Anim.* II 2, 414a12-17.

¹⁹¹ *Anim.* II 2, 414a18: οὐ τὸ σῶμά ἐστιν ἐντελέχεια ψυχῆς, ἀλλ' αὕτη σώματός τινος.

¹⁹² *Anim.* II 2, 414a20: σῶμα μὲν γὰρ οὐκ ἔστι, σῶματος δέ τι...

A link with De anima I 3

Aristotle then links his findings to his criticism of Platonists and Pythagoreans in *De anima* I 3, 407b13-26. And it now becomes clear why the definitional specification that the body which receives the soul is *organikon* is so important: the soul is the *entelecheia* of that which receives it and which possesses potentiality, as the matter which fits this entelechy.¹⁹³ That is to say: the body that receives the soul can only be the instrument of the soul on the level for which it has the potentiality. The body-that-receives-the-soul which only has the potentiality to be the vegetative instrument of the soul will never produce anything other than a plant. The body-which-receives-the-soul which has the potentiality to be the vegetative and sensitive instrument of the soul will become the vehicle of life for an animal. Only the body-that-receives-the-soul which also has the potentiality for rational activity will become the instrument of a human soul. It is therefore out of the question that just any body acts as its instrument. The receptive capacity of the receiving body is decisive for the level on which it can be the instrumental-body-for-the soul.¹⁹⁴ Tools suitable for producing (like the carpenter's tools) cannot serve as the instrument for making music (a flute).

Looking back from the discussions in *De anima* II 2, 414a4-28 to *De anima* I 3, 407b13-26, we must conclude that Aristotle wrote the latter passage with the alternative of II 2 at the back of his mind. In I 3, 407b21, too, we should therefore interpret 'the body which must receive the soul' as 'the body which is instrumental to the soul' for manifesting the soul's functions in the visible body. And when Aristotle says in I 3, 407b23: 'Each seems to have its own generic form', Aristotle must also be referring to the 'instrumental body of the soul', which for plants is only a 'vegetative instrumental body', and for animals and human beings an 'instrumental body' with potentiality for higher functions

¹⁹³ *Anim.* II 2, 414a25-27: ἐκάστου γὰρ ἡ ἐντελέχεια ἐν τῷ δυνάμει ὑπάρχοντι καὶ τῇ οἰκείᾳ ὕλῃ πέφυκεν ἐγγίνεσθαι.

¹⁹⁴ In my view, however, it is unthinkable that what Aristotle says here about the soul and its instrumental body applies to every organ and its (own) functions, as S. Everson, *Aristotle on perception* 78-79 argues. This would imply that one living creature contains a plurality of souls. Such a position was never attributed to Aristotle by any author in Antiquity. What fascinated Aristotle is that the sperm of a cat always produces kittens (with kitten's eyes and kitten's legs, but never cow's eyes) with their own soul.

The correct reading of De anima II 1, 412a13-15

We must now return to a problem regarding the way Aristotle speaks about 'life'. We have seen that he draws a sharp distinction in *De anima* II 2, 414a4-14 between the soul as primary principle of life (A1), the vehicle of the soul as 'that by which we live' in a secondary sense (A2), and the living individual (B). We have also seen that he distinguishes in II 4, 416b20-30 between 'the primary soul which nourishes' (A1), that by which the soul nourishes (A2), and that which is nourished (B). And in *De motu animalium* chapter 10 we saw that Aristotle distinguishes between the soul as principle of movement (A1), *pneuma* as the *organon* of the soul for movement (A2), and the visible body as that which is moved (B). In the last case the terminological distinction can be formulated most clearly: 'that which is moved' (B) can be distinguished from 'that-which-moves-while-it-is-moved-itself' (A2) and from 'the unmoved principle of movement' (A1).

The matter is more complicated in the case of 'life'. The concrete individual (B) lives by the agency of 'that which receives the soul' (A2). That is to say: the concrete individual (B) lives in the sense that vital activities are caused in it. But 'that which receives the soul' (A2) obviously 'lives' too, in the sense that it 'brings about life and is spurred to vital activity'. Of the soul (A1) which is the principle of life we shall perhaps, by analogy with the foregoing, have to say that it is the (lifeless?) principle for life (A2).

Things are even more complicated when it gets to 'nourishing' and 'being nourished', which for Aristotle are on the same (basic) level of 'life' as 'growing'. True enough, it is possible to distinguish between the soul as principle of growing activity (A1) and 'that by which growth is effected' (A2) and the concrete, visible body which is caused to increase in volume (B). And likewise between the soul as principle of nutritive activity (A1) and 'that by which nourishment is effected' (A2) and the visible body which is nourished (B). But in usage the verbs 'to live' and 'to grow' are intransitive and the verb 'to nourish' is transitive. Nevertheless, for mortal beings, Aristotle presented 'life' on the most basic level as 'processes of nutrition and growth'. He also presented the incorporeal soul as the ultimate explanatory principle of these processes (A1). But he went on to distinguish between the visible body in which such processes are brought about (B) and a body which is the instrument of the soul (A2), by which these processes in (B) are brought about.

Now, at the very beginning of his exposition in *De anima* II 1 Aristotle had said: 'Of the natural (bodies) some possess life and others do not. And by "life" I mean nutrition and growth and decrease by the agency thereof'.¹⁹⁵ A curious problem presents itself here in the transmitted text. Two manuscripts (H^a and P) read here 'by its own agency' (δι' αὐτοῦ). One manuscript (F^c) reads the same, but writes it differently (δι' ἑαυτοῦ). But the other manuscripts, which are in the majority in terms of number (twelve against four) and quality, read here: 'by the agency thereof' (δι' αὐτοῦ).¹⁹⁶

However, this reading of the majority of manuscripts makes no sense whatsoever against the backdrop of the traditional interpretation of *De anima*.¹⁹⁷ At the same time it is hard to understand through what error this reading was accepted by scribes. The reading of the majority of manuscripts is clearly the *lectio difficilior* here, which always deserves serious attention and consideration. In the reading of most manuscripts we find in 412a13: 'Of the natural (bodies) there are those which possess life and others which do not possess life'. And this is followed by: 'And by life I mean nutrition, growth, and decrease by the agency thereof'. It is therefore totally understandable that almost all modern editors follow the reading of the minority of manuscripts here and read 'by its own agency'.¹⁹⁸

However, commentators on this passage should have realized that, though a modern reader easily accepts an interpretation of digestive processes as an activity of a living organism, Aristotle never talks about it in this way. The standard hylomorphistic interpretation of *De anima* II 1 has partly determined the choice of text here.

Throughout his biological writings Aristotle makes it clear that the visible bodies of living entities manifest these processes because they are ensouled and through 'vital heat'. And he makes this very explicit

¹⁹⁵ *Anim.* II 1, 412a13-15: Τῶν δὲ φυσικῶν τὰ μὲν ἔχει ζωὴν, τὰ δ' οὐκ ἔχει· ζωὴν δὲ λέγω τὴν δι' αὐτοῦ τροφήν τε καὶ αὐξησιν καὶ φθίσιν.

¹⁹⁶ This is also the reading of Simplicius. In *De an.* II 85, 19; 85, 29 and 86, 4.

¹⁹⁷ In his article 'The text of the *De anima*', *Autour d'Aristote. Recueil ... offert à A. Mansion* (Louvain 1955) 215 W.D. Ross in fact called this passage an example of a case in which the modern editor must opt for a reading from a weaker tradition against the majority of the (ancient) manuscripts.

¹⁹⁸ Thus W.D. Ross (1956); id. (1961); E. Barbotin (1966). Though G. Rodier (1900), R.D. Hicks (1907) and W.S. Hett (1936) read δι' αὐτοῦ, they translate the text as if it read δι' αὐτοῦ: 'le fait de se nourrir', and 'capacity for self-sustenance'. The article by G.B. Matthews, '*De anima* 2. 2-4 and the meaning of *life*', M.C. Nussbaum; A. Oksenberg Rorty (eds), *Essays* (Oxford 1992) 185-193 is also based on the explanation 'self-nutrition'.

again in *De anima* II 2 and II 4.¹⁹⁹ So how come the majority of manuscripts offers such a surprising reading? One might in fact conclude that the reading of the majority of manuscripts has passed down the *correct* reading. What Aristotle is saying here is that a 'natural (body)' possesses life in the sense that *by its agency* nutrition and growth and decrease occur, namely *in the visible bodies of plants, animals, and human beings*.²⁰⁰

But perhaps the sentence of 412a13-15 is a gloss in the same vein as that of 412b1-4.

Notes on De anima II 3 and 4

In *De anima* II 3, 414a31-b19 Aristotle makes it clear that he wants to distinguish soul-principles on the basis of the functions which are thereby actualized, namely (1) the nutritive (*threptikon*), (2) the appetitive (*orektikon*), connected with tactile sense, (3) the sensitive (*aisthêtikon*), with a number of variants, (4) the locomotive (*kinêtikon*), (5) the deliberative (*dianoêtikon*) function. The souls thus differentiated each have a distinct *eidos* of the instrumental body.

When Aristotle goes on in *De anima* II 4, 415b8 to call the soul 'the cause and the principle of the living body', we shall certainly have to assume that he means: 'the cause and the principle' of the 'body' which he had specified in II 1 as the 'instrumental natural body'.

And when he says in what immediately follows: 'For all natural bodies are instruments of the soul, and those of plants just as much as

¹⁹⁹ Cf. *Anim.* II 2, 413a25-28; 4, 416b20-29 and *Part. anim.* II 7, 652b12: τὸ τρέφειν γὰρ καὶ κινεῖν ψυχῆς ἔργον ἐστί, ταῦτα δὲ διὰ ταύτης μάλιστα γίνεται τῆς δυνάμεως (sc. τοῦ θερμοῦ).

²⁰⁰ In this connection see also *Gener. anim.* II 1, 735a19-21: ἀνάγκη δὲ ... ὅτι ὅταν τι γένηται αὐξάνεσθαι ἀνάγκη. ἐγέννησε μὲν τοίνυν τὸ συνόνυμον οἷον ἄνθρωπος ἄνθρωπον, αὐξεται δὲ δι' ἑαυτοῦ αὐτὸ ἅρα τι ὃν αὐξεί. MS Z reads this last as ἐστὶν ἀρα τι ο αὐξεί. However, I would prefer to correct the text passed down in *Anim.* II 1, 412a14 into: διὰ του, 'by the agency of something'. Cf. *Gener. corr.* I 5, 312a4-5. This suggestion was made to me by my brother, C.A. Bos. In a letter dated 27/1/2000 Prof. D. Holwerda proposed διαίτω(σαν), which would make the sentence read: 'And we thus mean that life regulates nutrition, growth, and decrease'. I would also like to refer here to A. Preus (1970) 25, who, after showing that according to Aristotle sperm possesses soul and is potentiality (of soul), remarks in n. 36: 'A problem remains: semen does not grow, so does it really have even the nutritive and generative soul?' My answer would be: sperm has soul as a vehicle of and instrument of the soul. But through its vital heat it *effects* the process by which the growth of a visible body is realized.

those of living creatures, because they exist for the sake of the soul',²⁰¹ these 'natural bodies' should be interpreted in the sense given to the 'natural (bodies)' in II 1, namely that they are 'instrumental' for the soul. It is true of everything that lives, so of plants and animals and human beings, that their soul-principle can only realize its functions with the help of its 'instrumental body'. Philologically it is quite unacceptable to explain this place in the sense that Aristotle is talking about 'natural bodies which are instruments', whereas the same 'natural bodies' in II 1 are interpreted as 'equipped with organs'. Aristotle's concern in this passage is to establish that the production of a fully grown, mature, visible specimen of a plant or animal is also the work of an 'instrumental body' under the guidance of an incorporeal soul-principle as the realization of sensation and locomotion.

The chocolate factory, the computer, and the computer program

The standard hylomorphic explanation of *De anima* has interpreted Aristotle's definition of the soul as if the author intended to give a definition of the soul along the lines of:

(A) '(the soul is) the production program of the chocolate factory'.

I think, however, that Aristotle gave a definition along the lines of:

(B) '(the soul is) the programme of the computer which carries out and monitors the chocolate-producing activities'.

With regard to modern information-processing apparatus it is usual to distinguish between 'software' and 'hardware'. Aristotle distinguished 'the soul' from its instrumental body as 'software' from 'hardware'. In practice it makes sense to set these two as the functional unity of the operating system of the chocolate-production process against all the processes in the chocolate factory which are monitored by the operating system (which in a chocolate factory obviously includes a feedback system!).

The computer may be situated in a separate, central place, yet it is situated in the factory. This makes it awkward to know whether 'the factory' refers to the chocolate-producing organization as a whole, including the operating computer, or just the machines and buildings needed for the actual production process.

²⁰¹ *Anim.* II 4, 415b18: πάντα γὰρ τὰ φυσικὰ σώματα τῆς ψυχῆς ὄργανα, καὶ καθάπερ τὰ τῶν ζώων οὕτω καὶ τὰ τῶν φυτῶν, ὡς ἕνεκα τῆς ψυχῆς ὄντα.

Something similar is found in a constitutional monarchy. 'The government governs', it can be said. But 'the government' is actually 'the Crown with the council of ministers'. This leaves it unclear who 'the subjects' are. Of course, all the persons governed by the government are 'subjects'. But a 'minister', too, as 'servant of the Crown', is a 'subject' himself.

Aristotle represented the operating apparatus of the visible body of living creatures as 'the *one* government' of this body, but at the same time introduced a distinction within this 'government' between 'the Crown' and 'the council of ministers' as the legislative and the executive branches. Someone who asks about 'the heart' of the chocolate factory will be referred to the computer room. Someone who asks about 'the heart' of the computer will be referred to the operating program. Someone who asks about 'the government' of the Netherlands will be referred to the buildings of the Council of Ministers. Someone who asks about the ruler over the council of ministers will be referred to 'the Crown'. Thus someone who asks Aristotle about 'the soul' of a living creature will be referred to the instrumental natural body which brings about all the processes in the living creature.²⁰² But someone who asks him about 'the soul proper' will be referred to the incorporeal *entelecheia* which controls the *sôma physikon organikon*.²⁰³

For Aristotle the soul is something like 'the chairman of the Board of Governors' of a university, in the sense that a chairman always needs other members of the board and is not complete without them. The university is ruled by the Board of Governors. But in its turn the Board of Governors is led by the chairman. When Aristotle, in the writings after *De anima*, talks about 'living creatures', he can talk about them as 'participating in life'.²⁰⁴ But these 'living creatures' possess 'life' because *pneuma* is present in them. And when Aristotle in *De anima* speaks 'about the soul', he can say that the soul is the principle of life for the 'instrumental body' and that the latter 'participates in life' thanks to the soul.²⁰⁵

²⁰² Cf. *Phys.* II 9, 200b5-8, where Aristotle says that to define 'sawing' as a certain way of separating wood is to imply that the saw must necessarily have iron teeth: ἔστι γὰρ καὶ ἐν τῷ λόγῳ ἓνια μόρια ὡς ὕλη τοῦ λόγου.

²⁰³ In analogous fashion Aristotle identified the celestial spheres and the stars and planets with the sun and moon as the efficient causes of all processes of generation and decay in the sublunary sphere. But asked about the cause of the order in the celestial spheres, he would have referred to the transcendent divine Intellect.

²⁰⁴ Cf. *Sens.* 1, 436a12.

²⁰⁵ *Anim.* II 1, 412a13-21.

An extra complication here is that Aristotle, in the writings where he speaks as a *physikos*, prefers to confine himself to the aspect of the soul which is 'not without body'. Hence the perspective in works like the *Parva naturalia* often seems wholly mechanistic/materialistic. However, inasmuch as all his works on living creatures are studies which he placed in the comprehensive framework set out in *De anima*, we will have to suppress any inclination to interpret them in mechanistic/materialistic terms.

The soul as the formal principle of the soul-body and the visible body?

Having thus established that the soul forms a substantial unity (in the sense of a composite substance) with the instrumental soul-body, we can ask to what extent the soul can still be presented as the formal principle of the visible, living creature. It is crucial here to take into account the metaphor of craft so important to Aristotle.

The craft of the carpenter is the formal principle of the house or of the case or of a flute. It is not the formal principle of the drill, the saw, the chisel, or the axe which the carpenter uses as instruments. But the carpenter's craft is the principle which uses the instruments with a view to the ultimate goal. To this extent the carpenter's craft is the principle which guides the meaningful activity of the instruments and makes the instruments 'purposefully' active. And also the principle which allows the latent possibilities of the instruments to develop with a view to this ultimate goal. For the human soul-body which can only function as a 'hammer' in the embryonic phase is capable of functioning after birth as a 'pair of glasses' and after a year as a 'motor' and after the lapse of more time as a 'computer'. And to serve these activities the soul-body produces at the same time the parts of the visible body adequate and adapted to such activities. But 'life' in the sublunary sphere is growth, sensation, movement, and deliberation, with the practice of *theôria* as man's ultimate possibility. In these *functions* lies the essence of a living creature and not in the material body which is an auxiliary cause of them!²⁰⁶

²⁰⁶ Cf. *Anim.* II 2, 413b29-414a1, where Aristotle distinguishes between 'perceiving' and 'opining' and then says that the modes of sense-perception in living creatures are variable in number, with the conclusion: τοῦτο δὲ ποιήσει διαφορὰν τῶν ζώων.

CHAPTER SIX

THE SOUL IN ITS INSTRUMENTAL BODY LIKE THE SAILOR IN HIS SHIP (*DE ANIMA* II 1, 413A8-9)

The end of De anima II 1

At the end of chapter II 1 of *De anima*, in which Aristotle has set out his alternative view of the soul, he makes the surprising remark: 'And moreover it is unclear whether the soul is *entelecheia* of the body in the sense in which a sailor is (the *entelecheia*) of a ship'.¹ This turn is remarkable, because it immediately follows the proposition that it is clear that the soul cannot exist separately from the body, or at least certain parts of it.² When Aristotle now goes on to say that it is not yet clear whether the soul is entelechy of the body in the same way that a sailor is (*entelecheia*) of a ship, this comparison seems to contradict the foregoing: after all, a sailor can leave the ship. The comparison immediately reminds one of more or less dualistic models for the relation of soul and body which Aristotle had brushed aside throughout chapter II 1, at least in the traditional explanation.

F. Nuyens observed in these lines 'a highly unexpected turn. For if anything is clear from the preceding lines it is most certainly that the soul is *not* the entelechy of the body in the way that a sailor is the entelechy of his ship. After all, Aristotle has stated that soul and body form a substantial, not an accidental unity'.³

J. Tricot (1947) concluded: 'De tout l'exposé d'*An.* il résulte manifestement, en effet, que l'âme n'est pas comme le pilote dans son navire'. O. Gigon (1950) 235 sees in this passage an adumbration of the solution to the problem of the preceding sentence, in which Aristotle says that those parts of the soul can exist separately from the

¹ *Anim.* II 1, 413a8-9: "Ετι δὲ ἄδηλον εἰ οὕτως ἐντελέχεια τοῦ σώματος ἡ ψυχὴ ὥσπερ πλωτὴρ πλοίου. Alex. Aphrod. *Anim.* 15, 19 proposes to read κυβερνητικὴ τέχνη here instead of πλώτηρ, which is again typical of his reinterpretation of Aristotle's psychology.

² *Anim.* II 1, 413a3-6. Aristotle leaves room here for a part (or function) of the soul which is not the entelechy of a body, namely noetic activity, 413a6-7.

³ F. Nuyens (1939) 252; Fr. ed. (1948) 272-273: 'contenu pour le moins fort inattendu'.

body which are not the entelechy of any body. For this assertion had the paradoxical consequence 'dass jene allgemeinste Definition der Seele gerade auf den bedeutungsvollsten Seelenteile nicht anwendbar ist'. And W.D. Ross notes: 'It is surprising to find this suggestion made here, since it flatly contradicts the thesis A. has been maintaining'. In Ross's view, there can be no doubt that Aristotle, had he discussed the problem further, would have utterly rejected the possibility. However, says Ross: 'He does not return to the suggestion elsewhere'.⁴ H.J. Blumenthal speaks about a 'notorious problem' and 'a question which, seen from the assumptions that underlie the whole treatise, to say nothing of the preceding definition, seems completely out of order, and is most easily understood as a piece of residual Platonism which Aristotle for some reason never excised'.⁵

We could for a moment toy with the idea that Aristotle is hinting here at one of his own views from an earlier, more instrumentalist phase. In chapter 5 I pointed to the striking fact that Aristotle says nothing about such an earlier phase in book I. And we could therefore be inclined to think that he touches on such a discussion here. But this makes it all the more unsatisfactory that he fails to develop the matter anywhere.

T. Tracy has provided an interesting contribution in an attempt to clarify this problematical passage.⁶ He approaches the problem starting from the question: 'Is Aristotle referring to an analogy (soul : body = steersman : ship) current in his time?'⁷ And he begins his

⁴ W.D. Ross (1961) 214-215. Cf. 21. In this passage Ross also inserts the word η before $\omega\sigma\pi\epsilon\rho\ \pi\lambda\omega\tau\eta\rho$. On this passage, see C. Lefèvre (1972) 137-140. Cf. R.D. Hicks 319-321; G. Movia (1979) 283-284. G. Soleri, *L'immortalità dell'anima in Aristotele* (Torino 1952) 121-122; 143 concluded that Aristotle was referring here to a Platonic view. This is criticized by A. Mansion, *R.Ph.L.* 51 (1953) 457-465. P. Gohlke (³1961) 136 suspects in this passage 'eine nachträgliche Randbemerkung', but also notes that 'eine Lösung der hier aufgeworbenen Frage nirgends gegeben wird'. See further H.J. Easterling, 'A note on *De anima* 413a8-9', *Phronesis* 11 (1966) 161; H. Robinson, 'Aristotelian dualism', *Oxf. Stud. in Anc. Philos.* 1 (1983) 128-131. M. Furth (1988) 155: 'The last two sentences but one, 413a6-9, come as something of a shock ...; obviously the way is being (rather stealthily) laid for the mysterious Productive or Active Intellect in Book iii'; D.W. Hamlyn, *Aristotle's De anima* (Oxford 1968) 87 dismisses the passage as 'only a lecturer's aside'; H. Busche, *Die Seele als System* 92 n. 179: 'Ein ganzes Buch liesze sich füllen mit der Auslegungsgeschichte dieses rätselhaften Vergleichs'.

⁵ H.J. Blumenthal, *Aristotle and Neoplatonism* (London 1996) 96-97.

⁶ T. Tracy, 'The soul/boatman analogy in Aristotle's *De anima*', *Class. Philol.* 77 (1982) 97-112; see also his article 'The soul as boatman of the body: Presocratics to Descartes', *Diotima* 7 (1979) 195-199.

⁷ T. Tracy (1982) 98.

inquiry by quoting Plotinus, *Enneads* IV 3 [27] 21, where Plotinus compares the role of the soul sometimes with the role of a 'sailor' and other times with that of a 'helmsman'. Tracy then investigates the use of the verb κυβερνᾶν ('to steer') in pre-Aristotelian philosophy, because he regards it as containing traces of 'the boatman or "steersman" (κυβερνήτης) metaphor'.⁸ He concludes: 'The evidence from Plato and the Presocratics ... suggests that the soul/steersman metaphor was fairly commonplace'.⁹ Tracy then studies a large number of passages in Aristotle's works where ship metaphors are used. These show sufficiently that Aristotle liked to derive metaphors from the world of ships and sailing.

A problem in Tracy's article is his belief that most commentators in Antiquity and modern times have rightly assumed an identification of the term 'sailor' in *De anima* II 1, 413a9 with 'helmsman',¹⁰ and furthermore his conclusion that Aristotle in 413a9 is not referring to the way in which the soul is present in the body, but to the way in which somatic processes are guided.¹¹ Tracy even adapts the grammatical construction and the translation of the sentence in 413a9 to this interpretation, and proposes to read: 'It is as yet unclear whether the soul, being in the way described above (οὕτως) entelechy of the body, is as it were (ὥσπερ) the "boatman" of the boat'.¹²

We cannot go along with this conclusion. Tracy's analyses (illuminating as they are, particularly his discussions of *Physics* VIII 6, 259b1-13 and *De motu animalium* 8-10,¹³ where he acutely indicates the instrumental role of *pneuma*) are handicapped by the fact that he interprets the 'instrumental body' in *De anima* II 1 as the visible body of a living creature. He therefore fails to see that Aristotle, after strongly underlining the unity of the soul with its 'instrumental body', now emphasizes that the soul as entelechy is the 'user' of the 'instrumental body'. This aspect was less prominent in the examples of 'the axe' and 'the eye'.

We do well to note that the specific point in this passage is no longer the question whether or not body and soul are separable. The issue is in what way the soul is entelechy of the body.¹⁴ We can assume

⁸ T. Tracy (1982) 99.

⁹ T. Tracy (1982) 101.

¹⁰ T. Tracy (1982) 102 with n. 16.

¹¹ T. Tracy (1982) 108.

¹² T. Tracy (1982) 111.

¹³ T. Tracy (1982) 104-107.

¹⁴ This is not the same as the question how the soul and the body are related to

that Aristotle is deliberately not making a comparison with the spheres of generation or production, but with the sphere of using instruments. For the instrumental body in which the soul has taken up residence is the instrument of the soul, as Aristotle had said in *De anima* I 3, 407b25-26. And for the sailor the ship is a means, an instrument, an *organon* for reaching his destination.¹⁵

But the problem which Aristotle raises in our text can still be interpreted in two ways.

(A) He may be focusing attention on the fact that the sailor is in the ship but *not everywhere* in the ship *but only in a certain part of the ship*.¹⁶

(B) Aristotle may also be referring to the fact that a sailor needs his ship to sail the seas, but no longer requires it when he has reached a safe harbour.

(A) If it is right that Aristotle posited a substantial unity of soul and instrumental body as the unity of formal principle and instrumental body, this might suggest that the form and the somatic vehicle are co-extensive. However, *De motu animalium* 10 states that *pneuma* is the instrument for the soul, but the soul is situated in a central place and is not present throughout the visible body, which does apply to *pneuma* (though there is more *pneuma* near the heart than elsewhere in the visible body). The remark at the end of *De anima* II 1 may anticipate Aristotle's treatment of the problem in *De motu animalium* 10, where he presents the instrumental body of the soul (*pneuma*) as a ship in which the soul finds itself like a sailor in a certain (central) place.¹⁷ This means, however, that in *De anima*, too, the soul is not present throughout the visible body but that all parts of the visible body possess life because they 'are connected' with the soul-principle.

each other, as H.J. Easterling (1966) 162 suggests, who proposes to interpret the sentence as an example of the indispensability of both the boat and the sailors.

¹⁵ Cf. *Protr.* fr. 11 Ross; B 15 Düring; 73 Gigon: πλοῖον ἕνεκα τῆς κατὰ θάλατταν κομιδῆς.

¹⁶ Cf. Plot. *Enn.* IV 3 [27] 21, 10. This angle is suggested by D. Furley in his contribution 'Self-movers', G.E.R. Lloyd; G.E.L. Owen (eds), *Aristotle on the mind and the senses* (Cambridge 1978) 165-179; repr. in M.L. Gill; J.G. Lennox, *Self-motion. From Aristotle to Newton* (Princeton 1994) 3-14, p. 5 n. 3.

¹⁷ Perhaps the Stoic notion of *hegemonikon* can be derived from this. But in the Stoic view it is highly problematic that a certain part within the psychic *pneuma* can hold sway over other parts.

(B) It is also quite clear that the sailor cannot make a sea voyage without a ship. Just so the human soul cannot perceive or feel without being connected with a material vehicle. But on land the sailor can find his way without a ship.¹⁸ So, too, the intellect of the soul, when realizing its potential for intellectuality, will need neither a fine-material nor a coarse-material instrument.¹⁹ We should therefore consider that Aristotle's discussions of the intellect in *De anima* III 4-5 are meant as the (affirmative!) answer to the question raised at the end of II 1. To achieve the knowledge which Aristotle regards as the ultimate goal of human existence, man must first use sense-perception. But this requires an outside world as a perceptible object.²⁰ And contact with this material natural outside world is impossible 'without a body',²¹ that is to say, without mediation by *pneuma*. But when man comes to seek the 'first causes', he leaves sensation behind him and actualizes his soul's intellectuality, an activity which does not need an instrumental body because the activity of the intellect is alone in being free of materiality. The desire for knowledge which motivates all men²² can initially express itself only in sensation. But in sensation human beings are like bats as regards knowledge of what is most knowable.²³ *Theôria* is only achieved when all sensation and all materiality have been abandoned. The ultimate realization of the 'potential for life' of the soul's 'instrumental body' as first entelechy takes place free of the instrumental body.²⁴ The ultimate goal of the natural desire for knowledge is the actualization of a supernatural activity.²⁵ Finally, the duality of the incorporeal soul as formal

¹⁸ Alex. Aphrod. *Anim.* 20, 26 – 21, 21 discusses this option as argued by certain persons: οὐδὲ οἱ εἶδος δὲ λέγοντες τὴν ψυχὴν τοῦ ζώου, εἶδος δὲ ὡς οὐσίαν τινὰ χωριστὴν τε καὶ αὐτὴν καθ' αὐτήν, ὡς τῆς νεῶς τὸν κυβερνήτην .. ὁρθῶς λέγουσιν. Cf. Plot. *Enn.* IV 3 [27] 21, 5-7.

¹⁹ It has no 'instrument' as the soul-part with capacity for sensation has – *Anim.* III 4, 429a26. After all, there is no corporeal activity which has a structural relation with the activity of the intellect – *Gener. anim.* II 3, 736b28-29.

²⁰ Cf. *Anim.* II 5, 417b24-26.

²¹ *Anim.* I 1, 403a6: ἄνευ σώματος - in the text of A. Jannone, who rightly rejects W.D. Ross's reading ἄνευ τοῦ σώματος. Cf. 403a9.

²² *Metaph.* A 1, 980a20: Πάντες ἄνθρωποι τοῦ εἰδέναι ὀρέγονται φύσει. Even this desire for knowledge cannot, as a form of *orexis*, be realized without a somatic *organon* of the soul according to *Anim.* III 10, 433b16-19. For this desire always starts with wonderment at the surrounding visible reality – *Metaph.* A 2, 982b13.

²³ *Metaph.* α 1, 993b9-11.

²⁴ This is the direction taken by Themistius, *In De an.* 43, 28ff. Cf. *Anim.* III 5, 430a32: χωρισθεῖς, which should not be interpreted as 'separated' from the mortal, visible body but as 'released' from the instrumental body of the soul.

²⁵ Hence Aristotle could probably say of animals: 'the soul is also the second

principle and its natural instrumental body correspond to the duality of all known reality, which is physical and somatic as empirical reality but universal, eidetic, and 'without matter' as (intellectually) known reality.

We should certainly see our text in connection with the passage in book I 3, 406a3-10. Aristotle starts his attack on Plato's theory of soul there by referring to what 'was treated earlier', namely that it is not necessary for something which effects movement to be in motion itself. At first sight this certainly seems to be a reference to *Physics* VIII.²⁶ Following on from there, Aristotle states that it is possible to be involved in a process of movement without developing a movement of one's own; sailors can sit still on a ship that is sailing.²⁷ This comparison is used by Aristotle to show that the soul of a living creature is itself an unmoved principle of movement in a spatially characterized whole which does move. But the final lines of II 1 could be well explained as leaving open the question whether the soul is the entelechy of the body in the way that the sailor is the final principle and the goal-principle for the ship. Seeing is the function of the eye and is impossible without the eye, but it does not guide and use the eye. Just so chopping is the entelechy of the axe and is impossible without the axe-body. But chopping does not guide and use the axe. In the same way sailing is the entelechy of a ship. But in a higher sense the sailor, who uses the sailing ship for his own purpose, is the entelechy of the ship. There are two possible ways of speaking about the 'goal', 'purpose' of something.²⁸

entelechy of a "natural body which is instrumental". This seems to me to be the purport of the sentence in II 1, 413a5-6, where Aristotle says: 'Of some [instrumental bodies] the entelechy is precisely the entelechy of those parts [of the soul]'. But for man (and for the cosmos) Aristotle would have to conclude: not the soul but the intellect is the second entelechy of a natural body which is instrumental for the soul (of a human being).

²⁶ The ancient commentators indicated *Physics* VIII 5. Likewise G. Rodier (1900) II 74-75. P. Gohlke therefore regards this passage as a 'later addition'. W.D. Ross (1961) believes there may be an internal reference to I 2, 403b29-31, though it is not true that Aristotle had also refuted the position mentioned there.

²⁷ Cf. *Anim* I 4, 408a30-33: κατὰ συμβεβηκός δὲ κινεῖσθαι, καθάπερ εἵπομεν, ἔστι καὶ κινεῖν ἑαυτήν, οἷον κινεῖσθαι μὲν ἐν ᾧ ἔστι, τοῦτο δὲ κινεῖσθαι ὑπὸ τῆς ψυχῆς, where it is made very explicit that the soul is situated in a means of transport which it *sets in motion itself*, without possessing a specific locomotion of its own. Cf. also *Phys.* VI 10, 240b8-12, where Aristotle argues that something indivisible can only be in motion accidentally, just as something in a ship moves through the movement of the ship. See also T. Tracy (1982) 103-104.

²⁸ Cf. *Phys.* II 2, 194a35: διχῶς γὰρ τὸ οὐ ἔνεκα· εἴρηται δ' ἐν τοῖς περὶ φιλοσοφίας. *Anim.* II 4, 415b2; b20; *Metaph.* Λ 7, 1072b1-3: ὅτι δ' ἔστι τὸ οὐ ἔνεκα ἐν τοῖς

This underlines yet again that the ship in the passage discussed here does not stand for the visible body but for the fine-corporeal instrument of the soul, *pneuma*. Which means that Aristotle clearly leaves scope here for speaking about an instrumental body of the soul that serves as the *ochêma*, the vessel of the soul.²⁹ The soul as form and *eidos* leads the development of its instrumental body so that it develops its sensitive and dianoetic potentiality. On this level the developed human being can come to see that his ultimate goal is not an orientation to sense-perceptible, natural reality but to a reality of a different order, which can only be grasped by the intellect. This leads to the realization of a natural potency of the soul. It is most likely that Aristotle described this process as a 'waking' of (the intellect of) the soul.

The instrumental body as the rudder of the soul

In *De motu animalium* Aristotle uses the image of a very small shift of the rudder leading to a wide deviation at the prow of the ship.³⁰ T. Tracy has accurately represented Aristotle's intention here: 'The analogy behind the explanation should be clear: the soul, itself unmoved per se, causes a slight contraction or expansion of the connate spirit in the heart, which change at the center of the organism brings considerable movement of the extremities, just as the boatman, himself unmoved per se, causes the whole ship to swing about by a relatively small shift of the rudder'.³¹ He adds the interesting remark: 'In this context it is easier to understand why Aristotle speaks of the

ἀκινήτοις, ἡ διαίρεσις δηλοῖ· ἔστι γὰρ τινὲς τὸ οὐ ἔνεκα (καὶ) τινός, ὧν τὸ μὲν ἔστι τὸ δ' οὐκ ἔστι. κινεῖ δὲ ὡς ἐρώμενον. *Eth. Eud.* VIII 3, 1249b15; *Gener. anim.* II 6, 742a20: τό τε γὰρ οὐ ἔνεκα καὶ τὸ τούτου ἔνεκα διαφέρει, καὶ τὸ μὲν τῇ γενέσει πρότερον αὐτῶν ἐστὶ τὸ δὲ τῇ οὐσίᾳ. δύο δὲ διαφορὰς ἔχει καὶ τὸ τούτου ἔνεκα· τὸ μὲν γὰρ ἐστὶν ὅθεν ἡ κίνησις, τὸ δὲ ᾧ χρήται τὸ οὐ ἔνεκα. λέγω δ' οἷον τό τε γεννητικὸν καὶ τὸ ὀργανικὸν τῷ γεννωμένῳ. The passages in *Phys.* II 2 and *Metaph.* A 7 make it clear that the problem broached by Aristotle in the final sentence of *Anim.* II 1 cannot be treated within the field of enquiry of the *physikos* alone. On this issue, see K. Gaiser, 'Das zweifache Telos bei Aristoteles', I. Düring (ed.), *Naturphilosophie bei Aristoteles und Theophrast* (Heidelberg 1969) 97-113.

²⁹ Note that Plato, too, in his myth of the soul-chariot only allows the charioteer and not the horses to take place on the crest of the celestial dome (*Phdr.* 247b-c). In chapter 14 I will discuss a number of testimonies which mention that, according to Aristotle, the intellect ultimately leaves behind the soul-vehicle.

³⁰ *Motu anim.* 7, 701b26: οἷον τοῦ οἴακος ἀκαριαῖόν τι μεθισταμένου πολλὴ ἡ τῆς πρῶρας γίνεται μετάστασις.

³¹ T. Tracy (1982) 106.

soul as moving the body by 'leverage'.³² In this context there is good reason to compare the rudder with *pneuma* as the instrument of the (incorporeal) soul. An earlier passage in *De motu animalium* mentions no fewer than eight times in eighteen lines a 'ship' and the way it is propelled by the wind or by means of a pole.³³ *De anima* also contains the image of the helmsman as a kind of 'unmoved mover' and of the hand of the helmsman as a mediator of the steering movement.³⁴

In *Physics* VIII 4 Aristotle notes that in living creatures, as in ships, there is a clear distinction between the entity which causes the movement and that which is moved.³⁵

Remarkably, Alexander of Aphrodisias tries hard to show that the soul is not the entelechy of the body like a sailor of his ship.³⁶ Alexander declares the soul as a whole to be tied to the visible body. However, Simplicius / Priscian believes that the soul sets the living creature in motion like the sailor the ship. For the sailor can also be the entelechy [of a ship].³⁷ So this author has trouble understanding how Aristotle can be in doubt here in any way.³⁸ But for Simplicius the soul which is the cause of locomotion is not the same as the form-producing, vegetative soul. And he relates 'ship' here to the visible body instead of the soul-body.

Philoponus criticizes Alexander of Aphrodisias sharply and at length. In his view, the rational soul is entirely free of corporeality and is compared by Aristotle with the helmsman in his ship.

The instrumental body as lever of the soul

In the foregoing I pointed out that T. Tracy has drawn attention to the passage in *Physics* VIII 6 which is about the leverage of the soul.³⁹

³² T. Tracy (1982) 106. The author refers to *Phys.* VIII 6, 259b20 (but wrongly mentions 259a20).

³³ *Motu anim.* 2, 698b21-699a11.

³⁴ *Anim.* II 4, 416b26: ᾧ κυβερνήτῃ, καὶ ἡ χεὶρ καὶ τὸ πηδάλιον, τὸ μὲν κινοῦν καὶ κινούμενον, τὸ δὲ κινοῦν μόνον (Jannone)

³⁵ *Phys.* VIII 4, 254b30: ὅμοιον γὰρ ὥσπερ ἐν τοῖς πλοίοις .. οὕτω καὶ ἐν τοῖς ζῴοις εἶναι διηρημένον τὸ κινοῦν καὶ τὸ κινούμενον. Cf. D.J. Furley, 'Self-movers', in *Aristotle on mind and the senses* (1978) 167.

³⁶ Alex. Aphrod. *Anim.* 15, 9-26.

³⁷ Simplicius. *In De an.* Prooem. 4, 19-20: ὑπὸ γὰρ τῆς ψυχῆς τὸ ζῶον κινεῖται ὡς ὑπὸ κυβερνήτου τὸ πλοῖον· ἐντελέχεια δὲ καὶ ὁ πλωτὴρ λέγεται.. J.O. Urmson (1995) 158 says of this passage: 'The last two sentences are, to say the least, surprising'.

³⁸ Simplicius. *In De an.* II 96,10: διὰ τί οὖν ἄδηλον ἔτι εἶπεν, εἰ καὶ πλάσαι χαλεπόν;

³⁹ *Phys.* VIII 6, 259b18-20.

This passage has interesting aspects unrecognized by W.D. Ross in his commentary.⁴⁰ In this text Aristotle focuses on Plato's doctrine of the self-moving soul as the principle of movement for human beings and animals. Against this view he points out that in living creatures all kinds of natural movements take place which are not the result of self-movement, like growth and decrease and respiration.⁴¹ In these processes external factors like food that needs to be digested and the movement of the celestial spheres are the real cause of movement.

Moreover, says Aristotle, we need to consider that in all 'self-movers' the cause of the ability to move itself moves too (by changing place), but only *accidentally*.⁴² It moves only as a side-effect of the fact that the body changes place. As a result, what is in the body and what moves itself by means of leverage also moves.⁴³

W.D. Ross's commentary here reads: 'Aristotle's thought is that the soul as it moves the body must keep in contact with the body and thus by moving the body incidentally moves itself'. This means that Ross distinguishes just two things here, to wit the soul and the (visible) body.⁴⁴ But in chap. 5 Aristotle had clearly said: 'There must be three things: that which is set in motion, that which sets in motion, and that by means of which it sets in motion'.⁴⁵

Aristotle's remark here that the soul itself moves only accidentally is typical of his theory that the soul is unmoved in itself and only involved in movement like sailors on their ship.⁴⁶ But because this is the case, the soul, in order to impart motion to the visible body, must use another entity by means of which it effects the movement. In *De motu animalium* Aristotle called this 'instrument' *pneuma*. In *De anima* II 1 he called it 'the instrumental body'. Here, in *Physics* VIII, he uses

⁴⁰ *Aristotle's Physics. A revised text with introduction and comm.* by W.D. Ross (Oxford 1936; repr. 1960) 707. See also F. Solmsen, 'Plato's first mover in the eighth book of Aristotle's *Physics*', *Philomathes. Studies .. in memory of P. Merlan* (The Hague 1971) 171-182.

⁴¹ *Phys.* VIII 6, 259b8-15.

⁴² *Phys.* VIII 6, 259b16-18: ἐν πᾶσι δὲ τοῦτοις κινεῖται τὸ κινεῖν πρῶτον καὶ τὸ αἷτιον τοῦ αὐτὸ ἑαυτὸ κινεῖν ὑφ' αὐτοῦ, κατὰ συμβεβηκὸς μέντοι.

⁴³ *Phys.* VIII 6, 259b18-20: μεταβάλλει γὰρ τὸν τόπον τὸ σῶμα, ὥστε καὶ τὸ ἐν τῷ σώματι ὄν καὶ τὸ ἐν τῇ μοχλείᾳ κινεῖν ἑαυτό. For τὸ see n. 48 below.

⁴⁴ Cf. *Aristoteles, Physikvorlesung*, übersetzt von H. Wagner (Berlin 1967) 244: 'im Gefolge davon verändert seinen Ort auch das, was im Körper seinen Sitz hat und den Körper sozusagen als Hebeanlage für die eigene Ortsveränderung benützt'.

⁴⁵ *Phys.* VIII 5, 256b14-15. Cf. *Mech.* 847b11-15, especially b13: ὁ γὰρ ἄνευ μοχλοῦ κινεῖν οὐ δύναται τις, τοῦτο αὐτὸ βάρος, προσλαβὼν ἔτι τὸ τοῦ μοχλοῦ βάρος, κινεῖ θάπτον. On this treatise see F. Krafft, *Dynamische und statische Betrachtungsweise in der antiken Mechanik* (Wiesbaden 1970).

⁴⁶ Cf. *Anim.* I 3, 405b31ff. and I 4, 408a30-33.

the concept of 'leverage'. But in any case that lever is an indispensable instrument for Aristotle.⁴⁷

W.D. Ross completely failed to recognize this because he only takes into account an Aristotelian psychology in which the soul is the form of the visible body. Hence his proposal to identify the visible body even more clearly with the 'lever' referred to in our text by deleting two words in the Greek text, which he sees as the product of 'a scribe's careless repetition'.⁴⁸ In my view, the carelessness which Ross attributes to the scribe goes back to his own careless exegesis of Aristotle's psychology.

I believe we can conclude that the end of *De anima* II 1, like the reference to *Physics* VIII 5 found in *De anima* II 1, confirms the idea that Aristotle developed his theory of the movement of the cosmos in close parallelism with his theory of the movement of living creatures in the sublunary sphere.

The background to the concept of entelecheia

Perhaps we can clarify something else if we are right in claiming for Aristotle the view that the soul is the helmsman who steers his ship (the instrumental body). This may shed light on the motives informing Aristotle's introduction of the notion that the soul is the *entelecheia* of an 'instrumental natural body'.

Much has been written about the notion of *entelecheia*. We know the person who introduced the term and we can try to determine the meaning it had for Aristotle in the many places where he uses the term. But there is still the problem how Aristotle construed this word as a neologism.⁴⁹ In Antiquity proposals to explain the term have

⁴⁷ At the end of *Anim.* I 3, 407b25-26 he therefore remarks that the soul uses the body in which it is placed like a craft its instruments. Cf. chapter 4 above. It should be noted that C. Prantl in *Aristoteles' Acht Bücher Physik*, Griechisch und Deutsch und mit .. Anm. herausgegeben (Leipzig 1854) added on his p. 527 a note 23: 'S. d. mot. anim. c. 9 u. 10 und d. incesso anim. c. 12'.

⁴⁸ W.D. Ross (1936) 707: 'The sense is slightly improved by reading καὶ τῇ μοχλείᾳ for καὶ τὸ ἐν τῇ μοχλείᾳ. Καὶ τὸ ἐν is a scribe's careless repetition of καὶ τὸ ἐν earlier in the line'.

⁴⁹ An intriguing statement is found in Stob. *Anthol.* I 49, 32: in *Joannis Stobaei Anthologii libri duo priores (Eclogae physicae et ethicae)* ed. C. Wachsmuth (Berolini 1884-1912; repr. 1958): τινὲς μὲν τῶν Ἀριστοτελικῶν αἰθέριον σῶμα τὴν ψυχὴν τίθενται· ἕτεροι δὲ τελειότητα αὐτὴν ἀφορίζονται κατ' οὐσίαν τοῦ θείου σώματος, ἣν ἐντελέχειαν καλεῖ Ἀριστοτέλης, ὥσπερ δὴ ἐν ἐνίοις Θεόφραστος.

been made by, among others, Alexander of Aphrodisias: 'the soul is *entelecheia* inasmuch as it is the cause of the *en tōi telei einai* of the entity of which it is the entelechy'.⁵⁰ A recent discussion of the problem is found in an article by D.W. Graham.⁵¹ He distinguishes two rival traditions in the debate over the etymology of *entelecheia*.

(a) The earliest and by far the most accepted tradition sees the term as a composition of ἐντελής and ἔχειν (τὸ ἐντελὲς ἔχον), with the meaning 'having achieved completeness'.⁵²

(b) However, K. von Fritz has argued that the term is a contraction of ἐν (ἐαυτῷ) τέλος ἔχειν, with the meaning 'to have its final purpose in itself'.⁵³

Graham objects to both views. He does regard τέλος as the object of ἔχειν. But in comparable lexical compositions like ἑναιμιος, ἑνθεος and ἑμψυχος there is no need to express 'to have' separately. One word is enough to the wise.⁵⁴ Graham's own alternative is a derivation from ἐντελῶς ἔχειν, which also emphasizes 'having reached a state of completeness'.⁵⁵

In my view, all these interpretations are unsatisfactory, because they do not leave clear room for a distinction which is essential for Aristotle, namely that between 'first (most basic) entelechy' and 'second entelechy'. The situation of an infant is such that it already possesses soul as the entelechy of a human being, but not that it is has achieved a state of completeness. An infant must develop until it has reached the mature stage of the species 'man'. This is because the soul itself is subject to a very special kind of development.

Furthermore, I have tried to show in the foregoing that Aristotle drew a fundamental distinction between the soul as form (and, as

⁵⁰ Alex. *Anim.* 16, 6: ὥς τοῦ ἐν τῷ τέλει εἶναι τὸ πρᾶγμα οὐδ' ἐστὶν οὐσαν αἰτίαν.

⁵¹ D.W. Graham, 'The etymology of 'ENTEΛΕΧΕΙΑ'', *Am. J. of Philol.* 110 (1989) 73-80.

⁵² D.W. Graham (1989) 74. Cf. W.D. Ross (1961) 15: 'having completeness'; cf. 19.

⁵³ D.W. Graham (1989) 75. G.A. Blair, "The meaning of 'energeia' and 'entelecheia' in Aristotle", *Int. Philos. Quart.* 7 (1967) 101-117 holds the same view. See also G.A. Blair, 'Aristotle on ENTEΛΕΧΕΙΑ: a reply to Daniel Graham', *Am. J. of Philol.* 114 (1993) 91-97; S. Menn, 'The origins of Aristotle's concept of 'Ενέργεια: 'Ενέργεια and δύναμις', *Anc. philos.* 14 (1994) 73-114; L. Couloubaritsis, 'La notion d'ENTEΛΕΧΕΙΑ dans la *Métaphysique*', *Aristotelica. Mélanges offerts à M. de Corte* (Bruxelles/Liège 1985) 129-155; H. Busche (2001) 112-126. R. Hirzel, 'Über Entelechie und Endecheie', *Rhein. Mus. f. Philol.* 39 (1884) 169-208 tried to explain *entelecheia* as a later conversion of *endelecheia*. Contra Hirzel, cf. H. Diels, 'Etymologica', *Zeitschr. f. vergl. Sprachforschung* 47 (1916) 200-203.

⁵⁴ D.W. Graham (1989) 78.

⁵⁵ D.W. Graham (1989) 79.

such, principle of movement) and the instrumental body of the soul as instrument (*organon*). This instrument is the means by which the soul is able to effect various kinds of 'work'. The typical 'work' of the soul for Aristotle involves interactions with natural reality by mediation of its own natural instrumental body.

However, this 'work' also entails the essential aspect of 'guiding', 'using' the instrument. This is not the proper function of the instrument but of the user. The introduction of the term *entelecheia* seems especially motivated by Aristotle's wish to bring out this controlling and guiding 'work' of the soul as formal principle. We could therefore consider whether Aristotle perhaps meant that the soul is the entelechy of a natural body which is its instrument, inasmuch as the soul keeps this instrument 'oriented to the goal'. Thus in the production of artefacts Aristotle presented 'the *eidos* in the soul of the craftsman and his knowledge of his art' as the entity which guides and leads the hands of the craftsman and his instruments, with a view to the *telos* of the production.⁵⁶ We could also interpret the Greek word '*telos*' as 'goal', 'aim' in the sense that a helmsman determines the course of his ship by aiming at a recognizable point on the horizon or at the sun. In that case the term *entelecheia* should be interpreted as a contraction of 'ἐν τέλει ἔχον'.⁵⁷ In this sense a distinction can be made between 'keeping a ship on course' that is under way and 'having brought home a ship to its final destination' in the safe harbour.

To understand the background to the term *entelecheia*, it therefore seems to me vital that the importance of the notion of *sōma organikon* as 'instrumental body' is recognized.

Simplicius' attempt to derive *entelecheia* from ἐν τελειότητι ἔχον⁵⁸ may suggest that such a derivation would not have met with prohibitive objections in Antiquity.

This explanation is all the more attractive because in all likelihood Aristotle presented the soul-on-its-way-to-its-final-destination in the *Eudemus* as Odysseus the wanderer, who throughout his peregrinations remained focused on the one goal, but only achieved this goal after returning to his beloved Penelope in his homeland Ithaca. He

⁵⁶ *Gener. anim.* I 22, 730b15-22.

⁵⁷ Thus H.G. Liddell/ R. Scott/ H.S. Jones, *A Greek-English Lexicon*, but with the translation 'to be at an end'.

⁵⁸ *Simpl./ Priscianus, In De an.* 84, 4-6: τὸ δὲ εἶδος ἐντελέχεια ὡς τελειότης καὶ ἐν τελειότητι ἔχον τὸ εἶναι, καὶ ὡς αὐτὸ ὄν καὶ τὸ σύνθετον ἐν τελειότητι σύνεχον. Simplicius' σύνεχον could call forth an association with the magnet as συνεκτικὴ αἰτία.

also presented the role of God in the cosmos as the driver/helmsman of a vehicle/vessel and as entelechy in the second sense.⁵⁹

The hypothesis that the term '*entelecheia*' already figured in Aristotle's lost works could find support in a text by Plutarch, who attributes to Plato and Aristotle a supreme level of knowledge which they called 'contemplation' (ἐποπτικόν). It is knowledge of the perfectly transcendent. They regarded this knowledge as a form of 'initiation' and the ultimate goal of philosophy.⁶⁰

There are no grounds for claiming, as G.A. Blair does, that the term '*energeia*', but not the term '*entelecheia*', was already used in Aristotle's dialogues.⁶¹ Blair is also wrong to state that all senses of *energeia* have an exact equivalent in a meaning of *entelecheia*.⁶² In the definition of the soul in *De anima* II 1, 412b5 it is out of the question that the soul could be described as 'the *energeia* of a natural instrumental body'. L. Couloubaritsis has rightly emphasized the importance of *De anima* II 1 for our understanding of what Aristotle meant by the term '*entelecheia*'.⁶³

Perhaps Aristotle wanted to add depth to the contrastive pair 'potency-*energeia*' by introducing the contrastive pair 'potency-entelechy', because he had come to see that the development of living creatures such as animals and human beings involves '*psychic* potentiality', in the sense that the embryo of a new human being is characterized by the generic form 'man', even though the psychic functions of growth, perception, locomotion, or thought have not yet been actualized.

⁵⁹ Cf. Ps.-Plu. *Placita* I 7, 881E.

⁶⁰ Plu. *Is. et Osir.* 382D-E (E. Froidefond, *Plutarque, Oeuvres Morales* t. V 2e partie, following R. Reitzenstein, reads οἷον ἐν τελετῇ τέλος ἔχειν φιλοσοφίας νομίζουσι. But the MSS read: οἷον ἐντελῇ τέλος ἔχειν φιλοσοφίαν) = Arist. *Eudem.* fr. 10 Ross; 1012 Gigon. Cf. Clem. *Str.* I 176, 2-3: τὸ θεολογικὸν εἶδος, ἡ ἐποπτεία, ἣν φησιν ὁ Πλάτων τῶν μεγάλων ὄντως εἶναι μυστηρίων, Ἀριστοτέλης δὲ τὸ εἶδος τοῦτο μετὰ τὰ φυσικὰ καλεῖ.

⁶¹ G.A. Blair (1967) 104. This claim is all the more curious in the light of Blair's conclusion on p. 116: 'So it would indeed seem that there was a progression in Aristotle's thought from the exclusive use of ἐντελέχεια in the sense of form to the mixing of the two words, to the final exclusive use .. of ἐνέργεια.'

⁶² G.A. Blair (1967) 102; 109. Likewise id. (1993) 96. C.-H. Chen, *Class. Quart.* 52 (1958) 14 also claimed: 'there is no practical difference between these two terms so far as their senses are concerned'; cf. *ibid.* 16.

⁶³ L. Couloubaritsis (1985) 148ff.

CHAPTER SEVEN

ARISTOTLE'S PROBLEMS WITH THE STANDARD PSYCHOLOGICAL THEORIES

In this chapter I want to examine whether my alternative reading of *De anima* II 1 and 2 can shed new light on the way in which Aristotle speaks about the theories of his predecessors in *De anima* I.

Souls of horses, human beings, and gods

A striking element in *De anima* I 1 is Aristotle's statement that all standard accounts of the soul are confined to a treatment of the human soul. In his thetic expositions in books II and III he himself will discuss the souls of animals and plants as well. But he adds that it is necessary to address the question 'whether there is one definition of the soul, or whether we need to formulate a different definition for each sort of soul, of horse, dog, man, god'.¹ We therefore expect Aristotle to take the souls of gods to be included in his own thetic exposition (though they are nowhere explicitly mentioned). But ancient commentators on *De anima* already suggested that the theory of soul developed by Aristotle in *De anima* II and following applies only to the souls of mortal living beings. The objection to this is Aristotle's declared intention in II 1, 412a5 to give a 'most general possible definition' of 'soul', an intention which he underlines in 412b4 and b9.² Since Aristotle assigns to the celestial gods the perceptive functions of hearing and sight,³ we need to ask whether these soul-functions may be realized 'without body' for the astral beings, or whether an instrumental body is also necessary for the souls of these gods. Interestingly, Hippolytus of Rome, describing the Gnostic doctrine of Basilides, posits that the 'great cosmic Archon' is related to

¹ *Anim.* I 1, 402b5: πότερον εἷς ὁ λόγος αὐτῆς ἐστὶ, καθάπερ ζῶον, ἢ καθ' ἕκαστον ἕτερος, οἷον ἵππου, κυνός, ἀνθρώπου, θεοῦ, τὸ δὲ ζῶον τὸ καθόλου ἤτοι οὐθέν ἐστιν ἢ ὕστερον. Note that Plato in his *Timaeus* speaks about the soul as the soul of a 'living creature' in general. Aristotle rejects this emphatically in *Anim.* I 3, 407b13-26.

² See also I 1, 402b5.

³ Cf. Olymp. *In Phd.* 8-9 (ed. Westerink) = Arist. *Philos.* fr. 24 Ross; 903 Gigon.

'his Son' as the 'instrumental body' is related to the 'entelechy' in the definition of soul given by Aristotle.⁴ For Hippolytus, it seems, every form of intracosmic life can be described in terms of Aristotle's definition of soul.

My alternative explanation of Aristotle's definition is quite well applicable to the celestial beings, because it interprets the words '*sôma organikon*' in the definition of II 1, 412b5 not as 'a body equipped with organs' (which cannot be attributed to the celestial beings) but as 'an instrumental body'. The astral bodies of the celestial gods, too, can be aptly regarded as instrumental bodies of incorporeal soul-principles.⁵

'That which possesses soul'

Slightly further on in I 1 Aristotle asks about the attributes of the soul. He raises the problem that an attribute either belongs to the soul alone or that all attributes of the soul commonly belong both to the soul and to 'that which possesses soul'.⁶ If we consider, when reading this text, that according to *De motu animalium* 10, 703a36 the soul is not present in every part of the visible body but only in the central part of it, the heart, where the innate *pneuma* is highly concentrated, we may be tempted to conclude that by 'that which possesses soul' Aristotle is referring not to 'the living creature'⁷ in the sense of 'the entire visible ensouled body'⁸ but to the fine-corporeal *pneuma* or its analogue in lower animals and plants.⁹ Both in 403a6 and in 403a9 we will have to follow the best manuscript tradition and

⁴ Hipp. *Haer.* VII 24, 1.

⁵ However, though the celestials take part in 'life' (*Cael.* II 12, 292a21), 'life' in the sense of 'growth and decrease' cannot be attributed to them (*Cael.* I 3, 270a28-35). In *Anim.* II 1, 412a14-15, apparently to clarify the notion of 'life', Aristotle had precisely emphasized 'growth and 'decrease'. (In chapter 5 above, however, I indicated that this sentence is not unproblematic.)

⁶ *Anim.* I 1, 403a3: 'Απορίαν δ' ἔχει καὶ τὰ πάθη τῆς ψυχῆς, πότερόν ἐστι πάντα κοινὰ καὶ τοῦ ἔχοντος ἢ ἐστὶ τι καὶ τῆς ψυχῆς ἴδιον αὐτῆς.

⁷ G. Rodier (1900) vol. II 27: '*ce qui possède l'âme, c'est le sujet, l'υποκείμενον constitué par l'union de l'âme à sa matière*'.

⁸ Thus R.D. Hicks (1907) 194. But he refers to *Memor.* 1, 450a28, which is about τὸ γιννόμενον διὰ τῆς αἰσθήσεως ἐν τῇ ψυχῇ καὶ τῷ μορίῳ τοῦ σώματος τῷ ἔχοντι αὐτήν. This cannot possibly refer to the *entire* visible body as the possessor of soul, but must refer to *pneuma*.

⁹ In *Gener. anim.* II 1, 734a1 Aristotle also considers it possible that male sperm contains something that ἔχον ἄν εἴη ψυχὴν.

read 'without body', rejecting the correction in some manuscripts which read 'without the body'.¹⁰ When Aristotle goes on to observe in 403a18: 'For in connection with these *the body* also undergoes a certain effect', this clearly alludes to the entire, visible body, as distinct from the soul's instrumental body.¹¹

A comparable problem is raised in I 4. Aristotle says there that old age is something which the soul does not undergo but which happens to 'that in which the soul resides'.¹² Here, too, the approach of R.D. Hicks is the standard one: 'that in which the soul resides' is 'the substratum of which the soul is the form, in short, the living body'.¹³ But again Aristotle may be speaking about *pneuma*, in which the soul is present in a primary sense.¹⁴ What follows here in the text seems to point in this direction: Aristotle says that the intellectual powers and theoretical activity decline 'because some other inward part declines', but the intellect itself remains unimpaired.¹⁵ (The term 'to decline' is connected with 'vital heat' thrice in one brief passage in the intriguing text *Problems* XXX 1 on 'melancholy',¹⁶ where the effects of wine and drunkenness are also explained by their 'pneumatic' nature and their consequences for human *pneuma*.) Activities like reasoning and loving and hating are different. These are activities which are not proper to the intellect but to 'that which possesses that (intellect), insofar as it possesses that (intellect)'.¹⁷ 'That which possesses that' must be identical here with 'that other inward part which declines' in the foregoing. But in that case 'that which possesses that' cannot be

¹⁰ G. Rodier, R.D. Hicks, and W.D. Ross read τοῦ in 403a6. A. Jannone does the same in 403a9.

¹¹ *Anim.* I 1, 403a18: ἅμα γὰρ τούτοις πάσχει τι τὸ σῶμα. There is no variation here in the mss. Torstrik (115) was right that this addition makes no sense if *sōma* is already interpreted in the foregoing as the visible body.

¹² *Anim.* I 4, 408b22: ὥστε τὸ γῆρας οὐ τῷ τὴν ψυχὴν τι πεπονθέναι, ἀλλ' ἐν ᾧ, καθάπερ ἐν μέθαις καὶ νόσοις. Cf. *Probl.* XXX 1, 955a18: τὸ γὰρ γῆρας κατὰψυξίς τις (sc. of the innate *pneuma*). See also *Long.* 5, 466a18-23.

¹³ R.D. Hicks (1907) 278.

¹⁴ This is clearly the case in *Iuv.* 4 and 5, where the presence of the 'innate natural heat' is said to be the cause of life, and its disappearance the cause of death. R.D. Hicks (1907) 278 also refers to this passage.

¹⁵ *Anim.* I 4, 408b24: καὶ τὸ νοεῖν δὴ καὶ τὸ θεωρεῖν μαραίνεται ἄλλου τινὸς ἔσω φθειρομένου, αὐτὸ δὲ ἀπαθές ἐστιν. On the problems this has posed to modern exegetes, cf. G. Rodier (1900) vol. 2, 137-138 and M. Tweedale, 'Aristotle's motionless soul', *Dialogus* 29 (1990) 129-130.

¹⁶ Cf. *Probl.* XXX 1, 955a5-11: μαραινομένου τοῦ θερμοῦ / τὸ μὲν γὰρ γῆρας μαραίνει τὸ θερμόν.

¹⁷ *Anim.* I 4, 408b25: τὸ δὲ διανοεῖσθαι καὶ φιλεῖν ἢ μισεῖν οὐκ ἔστιν ἐκείνου πάθη, ἀλλὰ τοῦδὶ τοῦ ἔχοντος ἐκεῖνο, ἢ ἐκεῖνο ἔχει.

identical with the visible body, but must designate the 'fine-material body' which is the vehicle and *instrument* of the soul.¹⁸ In *De anima* II 8, too, Aristotle explicitly locates the soul in the cardiac region.¹⁹ Aristotle also says in *De generatione animalium* that life fails in the cardiac region last of all.²⁰

In my view, this entire passage becomes a muddle if one ignores the distinctions made in *De motu animalium* 10 and interpretes the soul in a hylomorphistic sense as the entelechy of the visible body instead of the entelechy of the fine-material *pneuma*. Therefore the passages mentioned above should be interpreted in the same way as 'the body which is to receive the soul' in *De anima* I 3, 407b21²¹ and as 'that which receives the soul' in II 2, 414a10.²²

Corporeal and non-corporeal activities of the soul

The passage in *De anima* I 1, 403a3-28 is important for another reason. Aristotle claims there that many activities which the soul undergoes or undertakes cannot take place 'without body'.²³ Only the activity of intuitive thought (νοεῖν – 403a8), i.e. thought which does not use images (which have their origin in sense-perception), seems such that it can be realized separately from the somatic. Here, too, we face the problem: what body does Aristotle mean when he says that the affections of the soul are always 'inseparable from body'²⁴ and that in rage, calm, etc. 'the body is simultaneously affected' (403a18).

It has always been assumed that Aristotle must be referring to the visible body in its entirety. But this is by no means necessary. He may also be speaking about the specific soul-body. Indeed, various details in the text point in this direction. Aristotle gives the example of

¹⁸ Philoponus talks about a πνευματικὸν σῶμα in this connection. G. Rodier (1900) vol. II 138 takes a similar direction. Nevertheless, R.D. Hicks (1907) 278 interprets: 'the particular σύνθετος οὐσία made up of body and soul, which ceases to be at death' and E. Barbotin (1966) 19 believes that 'le sujet individuel' is meant.

¹⁹ *Anim.* II 8, 420b28: τῆς ἐν τοῦτοις τοῖς μορίοις ψυχῆς, which refers to ὁ περὶ τὴν καρδίαν τόπος (b26). Cf. T. Tracy, 'Heart and soul in Aristotle', J.P. Anton; A. Preus (eds), *Essays* vol. II (Albany N.Y. 1983) 321-339, pp. 325-328.

²⁰ *Gener. anim.* II 5, 741b15-19; b18: ἀπολείπει γὰρ τὸ ζῆν ἐντεῦθεν τελευταῖον.

²¹ See chapter 4 above.

²² See chapter 5 above.

²³ *Anim.* I 1, 403a6: τῶν πλείστων οὐθὲν ἄνευ σώματος.

²⁴ *Anim.* I 1, 403a16: μετὰ σώματός τινός.

people who fly into a rage without an objective reason, 'when the *sôma* expands (ὀργᾶ) and is in a state resembling its condition when angry'.²⁵ Here in both cases the body is the subject.²⁶ But in the next passage Aristotle gives a definition of anger according to its somatic aspect as 'the boiling of the blood or vital heat surrounding the heart'.²⁷ Here he is clearly referring to the function of *pneuma*, which is directly connected with the soul located in the heart. And he corrects the 'dialectical' definition of anger, which speaks about a 'desire for retribution', by showing that the vehicle of desire is the body which mediates the soul's movement to the visible body'.²⁸ Again, therefore, when Aristotle in 403a26 gives a general form of scientific definitions for affections of the soul by offering the example 'to be angry is the movement of a body of such kind or of a part or of a faculty',²⁹ he cannot be referring to the entire visible body, as R.D. Hicks suggests,³⁰ but must be specifically talking about psychic *pneuma*.

²⁵ *Anim.* I 1, 403a22: ἐὰν ὀργᾶ τὸ σῶμα καὶ οὕτως ἔχη ὥσπερ ὅταν ὀργίζηται. In chapter 3 above we explained that according to *Motu anim.* 10, 703a20 'the instrumental body of the soul' δεῖ αὐξάνεσθαι τε δύνασθαι καὶ συστέλλεσθαι. The verb ὀργᾶν, 'to swell', is mainly used by Aristotle in connection with sexual activity, which is closely linked to the operation of *pneuma*.

²⁶ And not 'the angry person', ὁ ὀργιζόμενος, as R.D. Hicks (1907) 199 states.

²⁷ *Anim.* I 1, 403a31: ζέσιν τοῦ περὶ καρδίαν αἵματος καὶ θερμοῦ. Ps.-Plu. *Vit. Hom.* 2, 131 has: ζέσιν δὲ τινα τοῦ αἵματος καὶ τοῦ ἐν αὐτῷ πνεύματος οὔσαν. T.J. Tracy, *Physiological theory* (1969) 351 already noted that here and in other places in *De anima* the soul is located in a central position of the body. Cf. *Anim.* I 4, 408b8. W.D. Ross, *Parva naturalia* (Oxford 1955) is therefore wrong when he states: 'In contrast with the importance attached to the heart in the biological works, in none of the passages of the *De anima* in which the heart is mentioned (403a31, 408b8, 420b26, 432b31) is any primary importance assigned to it'. Like Ross, I. Block (1961) 51 declared: 'he attaches no importance to the heart in the *De anima*', and 59: '*De anima* represents an earlier period in Aristotle's thought and may ... have been written at a time when he had not yet seen the importance of the heart for any of the vital functions'. But, as we pointed out in chapter 5 above, the use of the term '*pneuma*' would not be adequate in *Anim.* because Aristotle there is dealing with all levels of life, including the vegetative, whereas in *Gener. anim.* and *Parva naturalia* he confines himself to animal and human life.

²⁸ Cf. *Motu anim.* 10, 703a5: ἐστὶν ἡ ὀρεξις τὸ μέσον, ὃ κινεῖ κινούμενον· ἐν δὲ τοῖς ἐμψύχοις σώμασι δεῖ τι εἶναι σῶμα τοιοῦτον. See also *Anim.* III 10, 433b19: ὃ δὲ κινεῖ ὀργάνῳ ἡ ὀρεξις, ἥδη τοῦτο σωματικόν ἐστιν and *Metaph.* A 7, 1072a24-26.

²⁹ *Anim.* I 1, 403a26: τὸ ὀργίζεσθαι κίνησις τις τοῦ τοιοῦδι σώματος ἢ μέρους ἢ δυνάμεως.

³⁰ R.D. Hicks (1907) 199: 'By thus adding "or of a part or of the faculty belonging to it" Aristotle is providing for those cases where the mental process is thought not to affect the body as a whole, but to be confined to some particular organ, as seeing to the eye'. The definition in question is not concerned with 'seeing' but only with 'being angry'. For that matter, the activity of 'seeing', too, is not just to be located in the eye, but needs to be conveyed from there to the soul in the heart.

Another crucial passage is found in *De anima* I 1,403a11: 'if there is nothing which is exclusively an activity of the soul, its separate existence is impossible',³¹ In 403a16 Aristotle goes on to sum up a number of 'affections' of the soul which in any case have a somatic aspect: 'passion, calm, fear, pity, courage, joy, love, and hate'. This passage seems largely responsible for the traditional hylomorphistic interpretation of Aristotle's psychology. Scholars have also assumed on the strength of it that Aristotle considered any survival of the human soul after the individual's death impossible; only the pure intellect lives on. However, in the doxographical tradition, which I will discuss in chapter 14, such a view was never attributed to Aristotle in the period before Alexander of Aphrodisias. On the contrary, we repeatedly find texts which ascribe to Aristotle a theory of the soul's survival after death.

Does my alternative interpretation of *De anima* II 1 and 2 help us here as well? In fact, the expressions used by Aristotle, 'that which receives the soul' (τὸ ἔχον - 403a4), 'not without *sôma*' (οὐθὲν ἄνευ σώματος - 403a6), 'without body' (ἄνευ σώματος - 403a9), 'involving a body' (μετὰ σώματός τινος - 403a16), in any case leave open the possibility, but in my view forcibly suggest, that Aristotle means that a number of the soul's activities cannot take place apart from a somatic connection, but depend for their realization on account of the soul's close bond with a very special kind of body, *pneuma*, the body which is the soul's instrument. For Aristotle this means that, if there is any form of sense-perception, imagination, emotion, or desire, the soul cannot be purely incorporeal, but must have a corporeal substrate or vehicle. Only the activity of pure, intuitive thought, having non-material entities as its objects, does not require such a corporeal substrate. In itself this means nothing as far as a possible post-mortal existence of *the soul, including its corporeal vehicle* is concerned. Sure enough, an individual person will no longer experience perceptions or emotions after his death. But whether this applies to the soul, too, is left unsaid here. The text, explained in my alternative manner, declares only that the soul of an individual, if it has perceptions or emotions after the dissolution of the visible body, must still possess its somatic substrate.³² Only a soul-principle that has no emotion or

³¹ *Anim.* I 1, 403a11: εἰ δὲ μηθὲν ἐστὶν ἴδιον αὐτῆς, οὐκ ἂν εἶη χωριστή.

³² Cf. I 4, 408b25: Τὸ δὲ διανοεῖσθαι καὶ φιλεῖν ἢ μισεῖν οὐκ ἐστὶν ἐκείνου πάθη, ἀλλὰ τοῦδι τοῦ ἔχοντος ἐκεῖνο ἢ ἐκεῖνο ἔχει. Διὸ καὶ τούτου φθειρομένου οὔτε μνημονεύει οὔτε φιλεῖ. Cf. III 5, 430a22. So if Aristotle in a lost work discussed a

perception or image does not require such a somatic vehicle (in which case it is, in fact, to be characterized as a pure intellect).

Such a theory differs fundamentally from Plato's in that it does not describe the entire soul as unconnected with a body but *only* that part of the soul which is directed to incorporeal entities. In this connection it is apt to observe how Cicero reports that precisely the activities of thinking, learning and teaching, memory, love and hate, desire and fear, sorrow and joy led Aristotle to posit that man must have something in him whose nature differs from that of the four ordinary elements, and that he held this to be a kind of fifth element ('*quinta quaedam natura*', '*quintum genus*').³³

In what sense is the soul the principle of movement?

At the beginning of *De anima* I 2 Aristotle states that, of his predecessors, 'some say that the soul is pre-eminently and primarily that which sets in motion. However, because they believed that what is not in motion itself cannot set anything else in motion, they assumed that the soul belongs to the class of things which are in motion'.³⁴ The traditional hylomorphic interpretation of II 1 and following makes it difficult to grasp the point of Aristotle's formulation. My new (cybernetic-instrumentalist) explanation has much less problematic on this point. Aristotle will argue in II 1 that the soul as the entelechy of a 'natural body which is instrumental' is not in motion itself. But he does maintain that it is the principle of movement because it exerts power on *pneuma* as the vehicle of *orexis*, which sets the parts of the visible body in motion. In this way the soul is to be regarded as the driver in his *ochêma*.

memory of the soul after its separation from the earthly body (cf. Procl. *In Remp.* 2, 349, 13-26 (Kroll) = Arist. *Eudem.* fr. 5 Ross), he may well have been referring to the soul plus its fine-corporeal vehicle. Likewise the report in Olymp. *In Phd.* 8-9 (Westerink) (= Arist. *Philos.* fr. 24 Ross; 903 Gigon) that Aristotle attributed the senses of hearing and sight to the celestial beings suggests that he may have explained these as activities of the soul by means of its instrumental body.

³³ Cic. *Tusc.* I 10, 22 = Arist. *Philos.* fr. 27b Ross; 994 Gigon. Note that, according to *Gener. anim.* II 3, 736b29-737a7, the *dynamis* of every soul has something of the divine element. This statement is not at odds with Cicero's report, because II 3, 736b31 also emphasizes different degrees of participation in this divine element.

³⁴ *Anim.* I 2, 403b28: φασὶ γὰρ ἔνιοι καὶ μάλιστα καὶ πρῶτως ψυχὴν εἶναι τὸ κινεῖν. Οἰηθέντες δὲ τὸ μὴ κινούμενον αὐτὸ μὴ ἐνδέχασθαι κινεῖν ἕτερον, τῶν κινουμένων τι τὴν ψυχὴν ὑπέλαβον εἶναι. In I 3, 405b31 he starts the critique of this position.

The soul as an unmoved mover

An extensive criticism (in *De anima* I 3) of all pre-Socratic and Platonic theories of soul, which interpret the soul as the principle of movement which is in motion itself, is concluded by Aristotle with the words: 'It is absolutely not in this way that the soul seems to move the living creature, but by means of some or other choice or a thinking activity'.³⁵ For the way in which the soul, which is incorporeal itself and does not possess a natural movement of its own, is nevertheless the principle of movement, we will need the theory of *De motu animalium* 8 and 10,³⁶ where Aristotle discusses lucidly the transformation of 'desire' and 'thought' into the activities of the human visible body.

Liberation of the intellect from the bond with the somatic

In his critique of the theory of the World Soul in Plato's *Timaeus*, Aristotle first remarks that Plato, when talking about the soul of the universe, is not referring to an *anima sensitiva* or the like, but to an Intellect.³⁷ Further on Aristotle points out that it is, for this Intellect, 'a painful condition to be eternally bound up with its body without being able to break free from it, and indeed miserable, since it is better for the Intellect not to be bound up with a body.'³⁸

How, in view of this criticism, does Aristotle himself solve this problem? After all, he holds the human soul in its non-intellectual functions to be necessarily bound up with body. That is not the case for the intellect although the potential for intellectuality is a potential of the soul. We can probably assume that Aristotle regarded the practice of *theôria* by man as the way in which the intellect of the soul can liberate itself from the soul-body,³⁹ with which the soul is necessarily bound up. Also Aristotle had posited of the celestial beings that their Intellects should be considered unmoved movers which entirely transcend somatic reality.⁴⁰

³⁵ *Anim.* I 3, 406b24: ὅλως δ' οὐχ οὕτω φαίνεται κινεῖν ἡ ψυχὴ τὸ ζῷον, ἀλλὰ διὰ προαιρέσεώς τινος καὶ νοήσεως.

³⁶ See chapter 3 above.

³⁷ *Anim.* I 3, 407a2-7.

³⁸ *Anim.* I 3, 407b2: Ἐπίπονον δὲ καὶ τὸ μεμῖχθαι τῷ σώματι μὴ δυνάμενον ἀπολυθῆναι, καὶ προσέτι φευκτόν, εἴπερ βέλτιον τῷ νῷ μὴ μετὰ σώματος εἶναι.

³⁹ On this subject, see chapter 14 below.

⁴⁰ Cf. *Metaph.* Λ 8 and *Cael.* I 9.

A soul which leaves the body

In his criticism of the Pythagorean tradition with its view that the soul is the harmony of the (visible) body in its entirety, Aristotle asks how it can reasonably explain the fact that the (visible) body perishes 'when the soul has left the body'.⁴¹

Clearly this formulation is at odds with the standard hylomorphic interpretation of *De anima* II and III. But it does agree with the conception which Aristotle seems to have set out in his *Eudemus*. And I have repeatedly pointed out that my alternative interpretation of *De anima* II 1 leaves scope for the idea that the soul, as regards its non-intellectual functions, cannot exist separately from the fine-corporeal body, but that this does not imply that it cannot exist independently of the visible body.

In *De respiratione*, too, which links the presence of life to the presence of the 'innate vital (psychic) heat', and describes dying as the extinction of this vital heat, Aristotle feels free to speak about a natural death as a process in which the 'release of the soul' takes place almost imperceptibly'.⁴² In *De anima* I 3, 406b3-5 Aristotle rejects the possibility that the soul leaves the body and then returns to it by remarking that this would imply that living creatures can rise from the dead. However, this is not in itself a sound reason for maintaining that Aristotle rejected a post-existence of the soul. In the passage in question he is disputing Plato's view which attributes movement to the incorporeal soul.

I leave out of account here the very intriguing passage in *Metaphysics* Λ 3, where Aristotle explicitly considers a post-existence of the soul.⁴³

⁴¹ *Anim.* I 4, 408a28: τί ἐστιν ὃ φθείρεται τῆς ψυχῆς ἀπολιπούσης (*varia lectio* ἀπολειπούσης). Cf. I 5, 411b8: ἐξελθούσης and I 4, 409a28: πῶς οἶόν τε χωρίζεσθαι τὰς στιγμὰς καὶ ἀπολύεσθαι τῶν σώματων, in a criticism of Xenocrates' doctrine of soul. Cf. *Part. anim.* I 1, 641a19: ἀπελθούσης γοῦν οὐκέτι ζῶν ἐστιν. *Gener. anim.* II 5, 741b18: ἀπολείπει γὰρ τὸ ζῆν ἐντεῦθεν (sc. from the cardiac region) τελευταῖον.

⁴² *Resp.* 17, 479a22: ἀναίσθητος ἡ τῆς ψυχῆς ἀπόλυσις γίνεται παντελῶς. W.S. Hett rightly translates here: 'the release of the soul'. W.D. Ross's translation: 'the dissolution of the soul' is biased (334).

⁴³ *Metaph.* Λ 3, 1070a24-26: εἰ δὲ καὶ ὕστερόν τι ὑπομένει, σκεπτέον· ἐπ' ἐνίων γὰρ οὐδὲν κωλύει, οἷον εἰ ἡ ψυχὴ τοιοῦτον, μὴ πᾶσα ἀλλ' ὁ νοῦς· πᾶσαν γὰρ ἀδύνατον ἴσως. W. Jaeger (O.C.T. 1957) puts this text between square brackets as a later addition.

Why do plants and some animals stay alive after being cut in two?

For the traditional hylomorphic psychology it is also a problem how plants can be slipped and some animals appear to possess sensation after being cut in two. In several places Aristotle draws attention to this as a fact which needs to be explained by a satisfactory theory of vital phenomena.⁴⁴ In *De iuventute* 2 he enlarges on the bisection of insects and the slipping of plants. This chapter is completely in line with the remark in chapter 1 that, although the soul is not somatic, it should be located in a certain part of the body, for which the author refers to *De anima*!⁴⁵ For the argument continues in chapter 2 with the proposition that the principle of the *anima nutritiva* must be situated in a central place of the body of the animal or plant and that this part is a unity, but has the potential to divide.⁴⁶ Here, too, we have to conclude that not the soul as entelechy is split up, but *pneuma* or the innate vital heat as the vehicle of the soul-principle.

⁴⁴ *Anim.* I 4, 409a9: τὰ δὲ φυτὰ καὶ τῶν ζώων πολλὰ διαιρούμενα ζῆ καὶ δοκεῖ τὴν αὐτὴν ψυχὴν ἔχειν τῷ εἶδει. Cf. 5, 413b19; II 2, 411b19; II 2, 413b16-24; *Metaph.* Z 16, 1040b10-14. Cf. also *Gener. anim.* I 18, 722a11-16; 723b16-19; *Resp.* 17, 479a3-4; *Part. anim.* IV 6, 682b32-34; *Long.* 6, 467a18-30. G. Rodier (1900) vol. II 141 denies that the soul in the parts resulting from bisection is the same as that in the original plant or the original animal. But he does not explain how one soul can turn into two without reproduction. On this theme, see R.K. Sprague, 'Plants as aristotelian substances', *Illinois Class. Stud.* 16 (1991) 225 and ead., 'Aristotle and divided insects', *Methexis* 2 (1989) 29-40.

⁴⁵ *Iuv.* 1, 467b14-16.

⁴⁶ *Iuv.* 2, 468a20-b4. Aristotle developed the same idea in *Motu anim.* 9.

CHAPTER EIGHT

THE ROLE OF VITAL HEAT AND *PNEUMA* IN *DE GENERATIONE ANIMALIUM*

Emphasis on the efficient cause in De generatione animalium

The importance of Aristotle's work *De generatione animalium* was powerfully underlined by the English scholar A.L. Peck, who translated the work and added an extensive commentary in a highly instructive Introduction and in notes to the text. In the Preface to this work Peck states: '...it may, I think, be justly claimed that in this treatise Aristotle's thought is to be seen integrated as nowhere else'.¹ In Peck's view, the importance for Aristotle's philosophy lies in the fact that the book deals with the products of Nature: 'and in them too is to be found the activity of the Soul, working through its instrumental *pneuma*, which is the terrestrial counterpart of the celestial 'quintessence', *aither*, the divine constituent of the heavenly spheres and of the stars'.² Precisely because *De anima* does not talk explicitly about the psychic *pneuma*, it is important to note that for Peck, in view of the large amount of time and energy that Aristotle evidently spent on his biological research, 'we might legitimately proceed to interpret Aristotle's more strictly philosophical work in

¹ Aristotle, *Generation of animals* transl. by A.L. Peck (London 1942; repr. 1963) v. Cf. id. 'The connate *Pneuma*. An essential factor in Aristotle's solutions to the problems of reproduction and sensation', E.A. Underwood (ed.) *Science, Medicine and History*. Essays in honour of Charles Singer (London 1953), vol. I 111-121. See also G.R. Morrow, *A.G.Ph.* 50 (1968) 290: 'the great treatise *De generatione animalium*, though attacking empirical problems that still concern the biologist, is so permeated with Aristotle's philosophy that to understand it one must be acquainted with all his speculative principles'.

² A.L. Peck (1942) vi. T. Case, 'Aristotle' (1910) 520B already remarked: 'every organism has a soul, whose immediate organ is the spirit (πνεῦμα), a body which—analogue to a body diviner than the four so-called elements, namely the aether, the element of the stars—gives to the organism its non-terrestrial vital heat, whether it be a plant or an animal'. Cf. A.L. Peck (1942) lix: '*pneuma* is the immediate instrument of Soul'. In the same line G. Verbeke, *L'évolution* 20: '(Aristote) considérait le pneuma comme le premier instrument de l'âme, sans l'identifier avec elle'. Regrettably, Peck did not apply this insight to the definition of the soul in *Anim.* II 1. He translates this definition: 'the first realization of a body furnished with organs', (1942) lvii (Peck's emphasis).

the light of his work in natural history'³. J.G. Lennox recently emphasized that we can regard Aristotle's biological inquiries, which take up pages 486-789 of the standard edition of his work, as a '*research program ... embedded within Aristotle's broader philosophical outlook, reflected in the *Metaphysics*, *Physics* and *Organon**'.⁴ W. Kullmann estimated: 'Ein Drittel der erhaltenen Schriftenmasse ist biologischen Fragen gewidmet'.⁵

In this study I have chosen to give priority to the treatment of *De anima*, because *De anima* II 1 seemed to contain a major obstacle to an integral view of Aristotle's work. In discussing *De generatione animalium* in this chapter, it is my aim to show that in this work Aristotle constantly speaks about *pneuma* as the instrument of the (incorporeal) soul in animals and human beings. In this regard *De generatione animalium* tallies with the view of *De motu animalium* as outlined in chapter 3 above. *De generatione animalium* is primarily concerned with the vegetative function of *pneuma* in animals and human beings. *De motu animalium* deals with its motor function. But both functions of *pneuma* can be generalized as facets of the activity of the 'instrumental natural body' discussed in *De anima* II 1. In *De anima* Aristotle's attention has an even broader sweep, focusing not just on animal and human life but on all levels of life, including plants (that do not possess *pneuma* but an analogon).

In the first chapter of his work *On the generation of animals* Aristotle uses his theory of the four causes to stake out the treatise's framework. *De partibus animalium* had dealt in particular with the factors of form, matter, and final cause. The treatment of the parts concerned

³ A.L. Peck (1942) viii. This position is also held by M. Furth, who argues in *Substance, form and psyche* 5 that 'Aristotle's metaphysical inquiries about essence, substance, individual and so on were (or came to be) motivated in an extremely concrete and specific way by his theoretical preoccupations in biology'. An entirely opposite view is advanced by D.M. Balme, 'The development of biology in Aristotle and Theophrastus: theory of spontaneous generation', *Phronesis* 7 (1962) 91-104, p. 94: 'There seems to be no definite evidence that Aristotle's metaphysics was influenced by any biology beyond that which is known to have been practised in the Academy ... His metaphysical arguments certainly befit a potential biologist; but they do not reflect the actual biology of his biological works'.

⁴ J.G. Lennox, 'The disappearance of Aristotle's biology: a hellenistic mystery', *Apeiron* 27 (1994) 7-24, 8-9. The author suggests in this article that obstacles of an intrinsically philosophical nature prevented Aristotle's work from having a fruitful effect. But according to J. Barnes, 'Roman Aristotle', J. Barnes; M. Griffin (eds), *Philosophia togata* vol. 2 (Oxford 1997) 1-69, p. 15, 'in one form or another Aristotle's zoological writings were widely known in the Hellenistic period'.

⁵ W. Kullmann, *Die Teleologie in der aristotelischen Biologie* (Heidelberg 1979) 8.

with generation will especially focus on the principle of the efficient cause.⁶ That is to say, here Aristotle discusses a theme for neglecting which he often censured Plato in that this philosopher accepted only the Idea and matter as principles.⁷ In the further text of *De generatione animalium* we will have to examine carefully what entity Aristotle has in mind here.⁸ For he cannot have meant the soul if, as in *De anima*, he interpreted the soul in *De generatione animalium* as entelechy and *eidos*, and therefore as unmoved.

The sexual differentiation of living creatures is not present in their souls

Aristotle's doctrine of living nature is summed up in the proposition which opens his argument proper in *De generatione animalium* I 2 and prefaces the treatment of the 'ordinary' generation of living creatures: 'As principles of generation the male and the female will not be regarded as the least important; the male as containing the principle of movement and of generation, and the female (the principle of) matter. One is most likely to be convinced of this by studying how and whence semen comes'.⁹ Aristotle was indeed fully aware that, for living creatures possessing locomotion,¹⁰ sexual differentiation is essential to the process of generation. But what intrigued him was the fact that both the male and the female are required not to create androgynous specimens but either a new male specimen or a new female specimen (or a litter of female and male specimens).

⁶ *Gener. anim.* I 1, 715a1-18 with a11: λοιπὸν δὲ ... περὶ αἰτίας ... τῆς κινούσης τίς ἀρχή. For the Greek text see *Aristotelis De generatione animalium* recogn. brevique adn. critica instruxit H.J. Drossaart Lulofs (Oxford 1965; repr. 1972). For ἀρχή there is a *varia lectio* αὐτή, which is defended by C. Lefèvre (1972) 36 n. 3. Cf. A.L. Peck (1942) xxxviii-xlii and P. Moraux (1955) 256

⁷ Cf. *Metaph.* A 9, 991a22; 991b3-5; *Gener. corr.* II 9, 335a30; 335b8 and ch. 4 above.

⁸ According to D.M. Balme, *De partibus animalium I and De generatione animalium I (with passages from II 1-3)* transl. with notes (Oxford 1972) 127 the introduction of 715a1-18 was possibly not written by Aristotle himself, for one because *Part. anim.* also discusses the 'efficient cause'. This argument is not convincing, because it is clear that *Gener. anim.* focuses specifically on the efficient cause in the reproductive process, and on the role of the male sex as such. Cf. I 2, 716a3-7.

⁹ *Gener. anim.* I 2, 716a4-8: τῆς γενέσεως ἀρχὰς ἂν τις οὐχ ἥκιστα θεΐη τὸ θῆλυ καὶ τὸ ἄρρεν, τὸ μὲν ἄρρεν ὡς τῆς κινήσεως καὶ τῆς γενέσεως ἔχον τὴν ἀρχήν, τὸ δὲ θῆλυ ὡς ὕλης. τοῦτο δὲ μάλιστα ἂν τις πιστεύσειε θεωρῶν πῶς γίγνεται τὸ σπέρμα καὶ πόθεν. II 4, 738b21 says that the male provides τὸ δημιουργοῦν.

¹⁰ Cf. *Gener. anim.* I 1, 715a18ff.

Since this involves the transmission of life and the soul as a principle, Aristotle will have to explain the role the soul plays in this sexual differentiation. The traditional view, in which the soul is interpreted as 'the entelechy or *eidos* of a natural body equipped with organs' seems to entail that the soul is also the entelechy of the sexually differentiated body, that is to say, the body equipped with male or female sexual organs. However, this would imply that Aristotle distinguished between male souls and female souls, just as he distinguishes between the souls of dogs and the souls of human beings. But Aristotle never speaks about sexual differentiation on the level of souls.¹¹

The preformation theory rejected; epigenesis accepted

After Aristotle has discussed in detail all the differences between sexual organs in various kinds of living creatures,¹² his first major topic is the composition and origin of sperm¹³. With a series of arguments he refutes the view, set out at length, known as the preformation theory or pangenesis theory, according to which sperm should be seen as an extract of the entire body of the adult specimen which produces the sperm.¹⁴

This view, refuted and rejected here, could seem to be compatible with Aristotle's own views if, as the standard theory goes, he held that the soul 'is the entelechy of the visible body equipped with organs'. However, Aristotle's criticism of the theory that the entire body is present in sperm as an extract becomes much more understandable

¹¹ Aristotle adduces the difference in sexual organs as an argument in *Gener. anim.* I 18, 722b5-6 against the so-called preformation theory, which he rejects. He goes on to argue in *Gener. anim.* that the possession of male or female genitals is due to the quality and temperature of the *pneuma*, which is the vehicle of the soul-principle.

¹² *Gener. anim.* I 3-16.

¹³ *Gener. anim.* I 17, 721b6: Δοκεῖ δὲ πάντα γίγνεσθαι ἐκ σπέρματος, τὸ δὲ σπέρμα ἐκ τῶν γεννώντων· διὸ τοῦ αὐτοῦ λόγου ἐστὶ πότερον καὶ τὸ θῆλυ καὶ τὸ ἄρρεν προίενται ἄμφω ἢ θάτερον μόνον, καὶ πότερον ἀπὸ παντός ἀπέρχεται τοῦ σώματος ἢ οὐκ ἀπὸ παντός.

¹⁴ Cf. P.M.M. Geurts, *De erfelijkheid in de oudere Grieksche wetenschap* (Nijmegen/Utrecht 1941) 107-129; A.L. Peck (1942) x; C. Lefèvre (1972) 46ff; M. Furth (1988) 113ff. W. Kullmann, *Die Teleologie in der aristotelischen Biologie* 10 and 42 emphasizes that Aristotle's position on this issue has prevailed since the beginning of the 20th century. On p. 42 he underlines: 'Wohl die bedeutendste naturwissenschaftliche Leistung ist seine Embryologie'. See also A. Preus, 'Science and philosophy in Aristotle's *Generation of animals*', *J. Hist. Biol.* 3 (1970) 1-52, pp. 5-7.

if we have to assume that he defined the soul as 'the entelechy of a special body which is the instrument of the soul' and if he held this combination of soul as *eidos* with its instrumental body to be responsible for producing the visible body.

Aristotle's conclusion of this lengthy passage is that the theory of his predecessors must be rejected. Sperm is not an extract of the entire visible body but is rather the source from which the visible body flows.¹⁵ This view is usually called the theory of epigenesis.

The product, the producer, and the means of production

In his study Aristotle discusses the genesis of living creatures. And he does so by means of the model of production.¹⁶ He constantly uses here his own distinction of the four principles of explanation or 'causes'. Something which is produced has a form; it is made from matter (material); it has a goal or purpose; and there must be an efficient agent. The efficient cause is always a living creature, whose external members are 'instruments' (*organa*), but who can supplement these bodily *organa* with mechanical *organa*. Aristotle develops this comparison most fully in *De generatione animalium* I 22: in something produced by a carpenter the form 'enters' the matter by means of movement. The form is in the soul as a kind of knowledge of the craftsman and the soul and the knowledge move the hands of the craftsman; the hands move the instruments and the instruments the material.¹⁷

¹⁵ *Gener. anim.* I 18, 725a21: Τὸυναντίον ἄρα ἢ οἱ ἀρχαῖοι ἔλεγον λεκτέον. οἱ μὲν γὰρ τὸ ἀπὸ παντὸς ἀπὶόν, ἡμεῖς δὲ τὸ πρὸς ἅπαντ' ἵέναι πεφυκὸς σπέρμα ἐροῦμεν.

¹⁶ Cf. J. Lennox, 'Teleology, chance, and Aristotle's theory of spontaneous generation', *J.H.Philos.* 20 (1982) 219-238, p. 222: 'I propose that to grasp the meaning of the doctrine we must take seriously Aristotle's insistence on a close analogy between processes originated by a craftsman and processes of a biological kind originated by the male parent'. See also J. Althoff, 'Das Konzept der generativen Wärme bei Aristoteles', *Hermes* 120 (1992) 181-193, who perceptively describes the special character of vital heat in Aristotle. Only, he fails to recognize that this vital heat is always directed by the soul-principle. His concluding sentence is therefore unfortunate: 'Die Zeugungslehre des Aristoteles mutet vielmehr sehr modern an, weil eine rein kausalmechanisch wirkende Übermittlersubstanz, eben die generative Wärme, den gesamten genetischen Prozess steuert'.

¹⁷ *Gener. anim.* I 22, 730b12-19: ἀπὸ τοῦ τέκτονος πρὸς τὴν τῶν ξύλων ὕλην οὐτ' ἀπέρχεται οὐθέν, οὔτε μόριον οὐθέν ἐστὶν ἐν τῷ γιγνομένῳ τῆς τεκτονικῆς, ἀλλ' ἡ μορφή καὶ τὸ εἶδος ἀπ' ἐκείνου ἐγγίγνεται διὰ τῆς κινήσεως ἐν τῇ ὕλῃ, καὶ ἡ μὲν ψυχὴ ἐν ἡ τὸ εἶδος καὶ ἡ ἐπιστήμη κινουσί τὰς χεῖρας ... αἱ δὲ χεῖρες τὰ ὄργανα, τὰ δ' ὄργανα τὴν ὕλην. Cf. I 18, 722b1: δημιουργεῖ and 723b29: ἀπὸ τοῦ δημιουργοῦντος,

(The question how the soul, which Aristotle holds to be 'unmoved', can move the carpenter's hands is discussed by Aristotle in *De motu animalium* 10, where he explains that the unmoved soul uses *pneuma* as a mediating *organon*.)

At the beginning of his argument Aristotle formulates the general rule: 'every productive activity requires *organa* (instruments/organs)'.¹⁸ Thus a male and a female require sexual organs to produce a new specimen of the same kind. The problem he faces in *De generatione animalium* I 19 and following is the 'instrument' that realizes the production of the new specimen (complete with the appropriate bodily organs and all). And this question can be narrowed down, because the instrumental parts of the new specimen are composed of what Aristotle calls the 'homoiomerous' parts,¹⁹ and because the soul as formal principle is also the formal principle of the 'homoiomerous parts'. The question can therefore be formulated as follows: by means of what instrument does the soul as formal principle realize the construction of the homoiomerous parts from the material supplied by the menstrual blood of the female and by the food that is absorbed from outside after concoction? In II 3 the final answer is given to this question: by the divine, celestial element with which the soul is bound up and that is 'absorbed' in the *pneuma*, which is present in the sperm.²⁰

In I 18, 724a15 Aristotle asks what sperm is. After having explained that the very first beginning of a new living creature is the combination of the male's sperm and the female's menstrual blood, his important conclusion is: 'the nature which is present in the male (in

οἶον ἀπὸ τοῦ τέκτονος. II 1, 735a28. Cf. II 4, 740b25: ὥσπερ δὲ τὰ ὑπὸ τῆς τέχνης γιγνόμενα γίγνεται διὰ τῶν ὀργάνων - ... - οὕτως ἡ τῆς θρεπτικῆς ψυχῆς δύναμις ... ποιεῖ τὴν αὐξήσιν, χρωμένη οἶον ὀργάνοις θερμότητι καὶ ψυχρότητι (ἐν γὰρ τούτοις ἡ κίνησις ἐκείνης ...). Though Aristotle uses the term *epistēmē* in the first passage, it is clear in the context and in the other passages quoted that he means the 'productive knowledge' of craftsmanship.

¹⁸ *Gener. anim.* I 2, 716a23: δέεται δὲ πρὸς πᾶσαν ἐργασίαν ὀργάνων. Cf. what is said of philosophy in *Protr.* 5b Ross; 56 Düring; 73 Gigon: οὐδὲ γὰρ δέονται πρὸς τὴν ἐργασίαν ὀργάνων.

¹⁹ *Gener. anim.* I 1, 715a9-11: ἡ ὕλη τοῖς ζώοις τὰ μέρη· παντὶ μὲν τῷ ὅλῳ τὰ ἀνομοιομερῆ, τοῖς δ' ἀνομοιομερέσι τὰ ὁμοιομερῆ, τούτοις δὲ τὰ καλούμενα στοιχεῖα τῶν σώματων and I 18, 722a28: σύγκειται γὰρ ἐκ τῶν ὁμοιομερῶν τὰ ἀνομοιομερῆ, and 722a25. Cf. *Cael.* I 9, 278a32: τῷ ἀνθρώπῳ ἐστὶν ὕλη σάρκες καὶ ὀστᾶ.

²⁰ Cf. M. Matthen, 'The four causes in Aristotle's embryology', *Apeiron* 22 (1989) 159-179, p. 165: 'The basic theory expressed in the *Generation of animals* is that the animal soul creates a baby by 'concocting' nutritive material by the warming action of breath, or πνεῦμα'.

living creatures of which the males emit sperm) uses this sperm as an instrument (*organon*) and as a vehicle of actual movement, just as instruments are used in products of craftsmanship. For in a certain sense the movement of craftsmanship is present in these.²¹ That is to say, Aristotle considers *technè* to be present in the (hands of the craftsman and next in the) instruments controlled by the craftsman, which then realize the form of the product in matter. Just so Aristotle regards the *sôma* of the male's sperm as the instrument or the 'instrumental body' by which the form of the kind in question is imprinted on the matter supplied by the female.²²

The essence of all vital processes, according to Aristotle, is that they are processes of change which are controlled and guided by a rational principle. This is clarified in *De generatione animalium* II 1. Aristotle says there: everything that man produces has a goal. An axe is for chopping wood; a spear is for killing the enemy. An axe and a spear are forged with the help of fire. But fire alone will never produce an axe or a spear. The fire needs to be used by a craftsman, a smith. He knows the *logos* of what a good axe or a good spear is. In the same way nature produces the flesh of a foot or a hand. And the hardness, softness, flexibility, or fragility of parts of the visible body are produced by means of vital heat. But the vital heat is controlled in all natural processes by the *logos* of the male, which has been transferred to the menstrual blood of the female during the act of mating.²³ This makes it much easier to understand why Aristotle in *De anima* II 2 can call the soul, besides *eidos* and *morphè*, the *logos* of 'that which receives the soul' and which (being the 'matter' of the soul) is in the proper condition to undergo the operation of the soul.²⁴ It is quite clear here that Aristotle is the author of the philosophical doctrine of the *logoi spermatikoi*.

²¹ *Gener. anim.* I 22, 730b19: ἡ φύσις ἢ ἐν τῷ ἄρρενι τῶν σπέρμα προιεμένων χρῆται τῷ σπέρματι ὡς ὄργανῳ καὶ ἔχοντι κίνησιν ἐνεργείᾳ, ὥσπερ ἐν τοῖς κατὰ τέχνην γιγνομένοις τὰ ὄργανα κινεῖται· ἐν ἐκείνοις γὰρ πως ἡ κίνησις τῆς τέχνης. Cf. the interesting textual variant in *Anim.* II 4, 415b7: διόπερ τὸ σπέρμα τῶν ζώων καὶ φυτῶν ὄργανόν ἐστι, which is not included in the modern text editions, and A. Preus (1970) 14-15.

²² *Gener. anim.* I 19, 727b31-33.

²³ *Gener. anim.* II 1, 734b31-36: σκληρὰ μὲν οὖν καὶ μαλακὰ καὶ γλίσχρα καὶ κραῦρα καὶ ὅσα ἄλλα τοιαῦτα πάθη ὑπάρχει τοῖς ἐμψύχοις μορίοις θερμότης καὶ ψυχρότης ποιήσειεν ἄν, τὸν δὲ λόγον ᾧ ἤδη τὸ μὲν σὰρξ τό δ' ὅστουν οὐκέτι, ἀλλ' ἡ κίνησις ἢ ἀπὸ τοῦ γεννήσαντος τοῦ ἐντελεχείᾳ ὄντος ὃ ἐστι δυνάμει ἐξ οὗ γίνεταί, ὥσπερ καὶ ἐπὶ τῶν γιγνομένων κατὰ τέχνην and b36-735a4.

²⁴ *Anim.* II 2, 414a4-14 and 414a27-28; II 4, 416a18.

It is also clear that Aristotle faces a problem here in his use of the analogy between the craftsman's production and natural generation. Because sperm is assigned the role of the carpenter's instruments, the natural process takes place as if the instruments, even when they are no longer guided by the carpenter, could continue to produce by themselves. Aristotle recognized this problem. And he tried to solve it in *De generatione animalium* II 1 by referring to the phenomenon of automata, which carry out their movements even after the user has stopped providing impetus.²⁵

Though the solution is a clever one, today we cannot find it entirely satisfactory. The main problem in the analogy between craft and nature is that the instruments of the craftsman, after the craftsman (the begetter) has withdrawn, continue on their own to produce not just a bed or a flute, but what could turn out to be a new carpenter.

However, to point out such problems is no reason to deny that Aristotle sought the solution to these vital questions in this direction. We shall always have to start by observing how far more advanced Aristotle was in thinking these problems through compared with all his predecessors.²⁶

An active formal principle and passive matter

If we have represented Aristotle correctly so far, sperm is not as such the cause of generation but is the (instrumental) vehicle of a productive principle of movement, i.e. of a psychic *dynamis*.²⁷ So while the new specimen originates 'from' the father and the mother, it should be seen as a combination, not of two raw materials, but of carpenter and timber.²⁸ This was a decision with far-reaching consequences. It

²⁵ *Gener. anim.* II 1, 734b4-17; cf. 5, 741b7-9. See C. Lefèvre (1972) 52ff and W. Kullmann, *Die Teleologie in der aristotelischen Biologie* 57-58.

²⁶ J. Needham, *A history of embryology* (New York 1955) 42 wrote admiringly: 'The depth of Aristotle's insight into the generation of animals has not been surpassed by any subsequent embryologist, and, considering the width of his interests, cannot have been equalled'. Cf. A. Preus (1970) 39-40: 'His version of the theory was a considerable advance on the theories of his predecessors'.

²⁷ In *Gener. anim.* I 19, 726b20 Aristotle formulates the problem as follows: *πότερον τὸ σῶμα τοῦ σπέρματος ἐστὶ τὸ αἴτιον τῆς γενέσεως ἢ ἔχει τινὰ ἔξιν καὶ ἀρχὴν κινήσεως γεννητικὴν. οὐδὲ γὰρ ἡ χεὶρ ... ἄνευ ψυχικῆς ἢ ἄλλης τινὸς δυνάμεως ἐστὶ χεὶρ...* Cf. I 20, 729a9: *τὸ μὲν ἄρρεν παρέχεται τὸ τε εἶδος καὶ τὴν ἀρχὴν τῆς κινήσεως τὸ δὲ θῆλυ τὸ σῶμα καὶ τὴν ὕλην* and a29.

²⁸ *Gener. anim.* I 21, 729b15: *οὐκ ἐστὶν ἐκ τούτων τὸ γινόμενον ἓν, ἀλλ' ἢ οὕτως ὥς ἐκ τοῦ τέκτονος καὶ ξύλου ἢ κλίνης*.

meant that, from now on, 'the female' is regarded as the passive, material, and inferior principle, involving a drastic undervaluation of the woman's role but also of physical reality. This is due to the fact that Aristotle placed the sexual relationship between man and woman in the subject-object framework, by analogy with the relation between thought-subject and thought-object. For him there is no room for seeing the gender relation as an intersubjective relation between two biotic subjects. This decision particularly had serious repercussions in late Hellenistic Gnosticism, which came to regard all biotic reproduction as a 'fall' in matter, symbolized by the woman (Eve).²⁹ But these historical consequences should not prevent us from seeing that Aristotle makes this choice to avoid a purely materialist, physicalist explanation of the generation of living creatures.³⁰ Aristotle states emphatically that the male does not contribute to the material quantity of the 'embryo'.³¹

Alternatively, indeed, it seems possible that the vital 'heat and power' of the female 'works on' the material, if under the male's guidance.³²

Aristotle's problem in book 2 is to explain how the sperm of the male can contain a vital movement which passes on the form of the species to the matter provided by the female and how the 'vital heat and power' in the female can be accounted for. Another issue here is that this 'vital movement' or 'vital heat' is eternal, for the species of animals are eternal according to Aristotle.³³ In the opening chapter of the second book Aristotle says that the presence of life and soul in the sphere of mortal creatures can only be explained by deriving them from the sphere of the eternal, divine beings.

²⁹ For this tradition, cf. R.A. Baer, *Philo's use of the categories of male and female* (Leiden 1970) and E. Pagels, *Adam, Eve and the Serpent* (Princeton 1988) 64ff.

³⁰ M. Furth (1988) 140-141 also defends Aristotle against the accusation of 'unexamined biased assumptions concerning the nature of sexes'. He points out that Aristotle 'was unable to see in which way the form, i.e. in the context of the general account, the "motions" conferring form, could be divided'. '... And so, he had to accept a male-chauvinist consequence, and he did so. Like a man'.

³¹ *Gener. anim.* 730a21-23.

³² *Gener. anim.* I 21, 729b25: ὁ γὰρ τοῖς προιεμένοις ἀπεργάζεται τὸ σπέρμα ἐν τῷ θήλει, τοῦτοις [τοῖς ἐντόμοις] ἢ ἐν τῷ ζῳῷ αὐτῷ θερμότης καὶ δύναμις ἀπεργάζεται. Aristotle returns to this variant in II 4, 738b9-27. See A. Preus (1970) 14, n. 21: 'This error possibly arises from taking the ovipositor, as seen during oviposition, for the phallus, as seen during copulation, and confusing male and female between the two events (see K.G. Davey, *Reproduction in insects* (San Francisco 1965))'.

³³ *Gener. anim.* II 1, 731b35: γένος αἰὲν ἀνθρώπων καὶ ζῳῶν ἐστὶ καὶ φυτῶν.

The divine factor in all that lives

The primary cause of movement in living creatures, which is the vehicle of the *logos* and the form, belongs to a higher, more divine sphere than matter.³⁴ We should consider here that the embryo of a new living creature results from the combination of the 'movement' of the male sperm and the menstrual blood of the female, and that, next, food is integrated after being digested, food consisting of the elements of the sublunary sphere, earth, water, air, and fire and their combinations. This means that Aristotle already indicates in chapter II 1 what he will more explicitly affirm in II 3, that life and the possession of soul can only be explained by assuming a divine factor. By stating that 'the beautiful and divine is always, by virtue of its own nature, the cause of the better in non-eternal beings',³⁵ he is actually saying that the soul and the vital movement in every living creature cannot be accounted for without involving the sphere of the divine and eternal, i.e. the sphere of the divine and eternal part of the cosmos.

This fully accords with repeated statements in Aristotle that explain man's generation with reference to both the procreator and the Sun or the circle of the ecliptic.³⁶ But also with his assertion that all being and all life in the cosmos 'hangs on' the life of the external celestial sphere.³⁷ And with the opening sentence of his treatise *De anima*.³⁸

But it also means that although the soul always remains connected with the 'divine body',³⁹ there is no compelling reason to assume that the divine principle loses its divinity when the visible body of the mortal individual no longer serves its purpose and perishes. Aristotle does not say anywhere that the soul of a mortal living creature perishes with the visible body.⁴⁰ Indeed, this is clearly at odds with *De generatione animalium* II 1-3. Something divine cannot be subject to

³⁴ *Gener. anim.* II 1, 732a3: βελτίονος δὲ καὶ θειοτέρας τὴν φύσιν οὐσης τῆς αἰτίας τῆς κινούσης πρώτης - ἢ ὁ λόγος ὑπάρχει καὶ τὸ εἶδος - τῆς ὕλης.

³⁵ *Gener. anim.* II 1, 731b25: τὸ δὲ καλὸν καὶ τὸ θεῖον αἴτιον αἰεὶ κατὰ τὴν αὐτοῦ φύσιν τοῦ βελτίονος ἐν τοῖς ἐνδεχομένοις.

³⁶ *Phys.* II 2, 194b13; *Metaph.* Λ 5, 1071a13-16; *Gener. corr.* II 10, 336a31; b6; b17; cf. *Gener. anim.* II 4, 738a16-18.

³⁷ *Cael.* I 9, 279a28-30.

³⁸ *Anim.* I 1, 402a1-7.

³⁹ *Gener. anim.* II 3, 736b29-31.

⁴⁰ The text of *Metaph.* Λ 3, 1070a24-26 could be adduced as 'evidence', but is problematic. I will return to it in chap. 14.

decay. This does not apply to the body which serves as the vehicle of the divine principle and as the soul's instrument, insofar as this instrumental body is subject to decay. For Aristotle not only the concrete living creature is a hybrid figure composed of a divine and a mortal component, but also the substantial unity of the soul and its instrumental body.⁴¹

Aristotle does acknowledge in *De generatione animalium*, as in the passage in *De caelo* I 9 quoted above, that there are degrees in quality of life in the sublunary sphere. According to him, these degrees correspond to the degree of vital heat or the degree of the divine principle's purity.

How, then, does Aristotle reach the conclusion in *De generatione animalium* II 3? In II 1 he asks 'how a plant or animal is formed out of seed'.⁴² And he goes on to specify more accurately: 'by what agency are the parts of such a plant or animal formed?'⁴³ This must be something either external or internal to the male sperm, and it must either be a part of the soul or a soul or something which is the vehicle of soul.⁴⁴ Note that, for Aristotle, the claim that the soul or a part of the soul (which he holds to be unmoved and incorporeal) produces something is just as contradictory as the claim that carpentry produces a bed or flutes 'by itself'. The relevant rule here is formulated by Aristotle in *De anima* I 3: 'craft must use its instruments and the soul its body'.⁴⁵ So the solution which Aristotle must reach is that plants and animals are formed by the agency of something that is 'the vehicle of soul'.

The vehicle of the divine factor (De generatione animalium II 3, 736b29ff.)

Because production is a movement led by a formal principle, Aristotle argues that the sperm of the male transfers the movement led by the formal principle to that which is going to be a new living being.⁴⁶ In chapter II 2 Aristotle goes on to inquire at length how the

⁴¹ On this problem, see chap. 9 below.

⁴² *Gener. anim.* II 1, 733b23: Περί ὧν ἔστιν ἀπορία πλείων, πῶς ποτε γίνεται ἐκ τοῦ σπέρματος τὸ φυτὸν ἢ τῶν ζῴων ὅτιοῦν.

⁴³ *Gener. anim.* II 1, 733b32: ὅφ' οὐ γίνεται τὰ μόρια.

⁴⁴ *Gener. anim.* II 1, 733b32: ἥτοι γὰρ τῶν ἔξωθεν τι ποιεῖ ἢ ἐνυπάρχον τι ἐν τῇ γονῇ καὶ σπέρματι, καὶ τοῦτ' ἔστιν ἢ μέρος τι ψυχῆς ἢ ψυχῆ, ἢ ἔχον ἂν εἴη ψυχὴν.

⁴⁵ *Anim.* I 3, 407b13-26 and ch. 4 above. Cf. *Gener. anim.* I 22, 730b11-22.

⁴⁶ *Gener. anim.* II 1, 735a2: ἡ γὰρ τέχνη ἀρχὴ καὶ εἶδος τοῦ γιγνομένου, ἀλλ' ἐν

constitution of sperm is to be understood. He explains the striking differences between water and sperm by the presence of *pneuma* in sperm.

De generatione animalium II 3, 736b29-737a7

The *dynamis* of every soul seems to have something of a *sôma* different from and more divine than the so-called elements; and the differences in worth or unworth between souls correspond with the differences in this active substance (*physis*). For the semen of everything (that lives) contains within itself its cause of being fertile, viz. so-called (vital) heat. This (vital) heat is not fire or any such power but the *pneuma* which is enclosed within the semen and in the foam-like stuff; it is the active substance which is in *pneuma*, which is an analogue of the astral element. That is why fire produces no living creature and we never find a living being taking shape in fiery substances, whether solid or liquid. But the heat of the sun and that of living creatures does contain a principle of life (and not only the heat which is transferred via semen but also when there is a residue of a different kind). It is clear from the foregoing that the heat in living creatures is not fire and does not have fire as its principle.⁴⁷

ἐτέρῳ· ἡ δὲ τῆς φύσεως κίνησις ἐν αὐτῷ ἄφ' ἐτέρας οὐσα κίνησις τῆς ἐχούσης τὸ εἶδος ἐνεργεία.

⁴⁷ Arist. *Gener. anim.* II 3, 736b29-737a7: Πάσης μὲν οὖν ψυχῆς δύναμις ἐτέρου σώματος ἔοικε κεκοινωνηκέναι καὶ θειοτέρου τῶν καλουμένων στοιχείων· ὥς δὲ διαφέρουσι τιμότητι αἱ ψυχαὶ καὶ ἀτιμία ἀλλήλων οὕτω καὶ ἡ τοιαύτη διαφέρει φύσις· πάντων μὲν γὰρ ἐν τῷ σπέρματι ἐνυπάρχει ὅπερ ποιεῖ γόνιμα εἶναι τὰ σπέρματα, τὸ καλούμενον θερμόν· τοῦτο δ' οὐ πῦρ οὐδὲ τοιαύτη δύναμις ἐστὶν ἀλλὰ τὸ ἐμπεριλαμβανόμενον ἐν τῷ σπέρματι καὶ ἐν τῷ ἀφρώδει πνεῦμα καὶ ἡ ἐν τῷ πνεύματι φύσις, ἀνάλογον οὐσα τῷ τῶν ἄστρον στοιχείῳ. διὸ πῦρ μὲν οὐθὲν γεννᾷ ζῶν, οὐδὲ φαίνεται συνιστάμενον ἐν πυρουμένοις οὐτ' ἐν ὑγροῖς οὐτ' ἐν ξηροῖς οὐθέν· ἡ δὲ τοῦ ἡλίου θερμότης καὶ ἡ τῶν ζῶν οὐ μόνον ἡ διὰ τοῦ σπέρματος, ἀλλὰ καὶ τι περίττωμα τύχη τῆς φύσεως ὄν ἕτερον, ὅμως ἔχει καὶ τοῦτο ζωτικὴν ἀρχήν· ὅτι μὲν οὖν ἡ ἐν τοῖς ζῴοις θερμότης οὔτε πῦρ οὔτε ἀπὸ πυρὸς ἔχει τὴν ἀρχήν ἐκ τῶν τοιούτων ἐστὶ φανερόν. Text H.J. Drossaart Lulofs (Oxford 1965; repr. 1972). Translation in *Aristotle, Generation of animals* with an Engl. transl. by A.L. Peck (London 1942; rev. ed. 1953; repr. 1963); *Aristote, De la génération des animaux*, texte établi et traduit par P. Louis (Paris 1961); *Aristotele, Opere biologiche* a cura di D. Lanza e M. Vegetti (Torino 1971); *Aristotle's De partibus animalium I and De generatione animalium I (with passages from II, 1-3)*, transl. with notes by D.M. Balme (Oxford 1972) 64, notes on 162-165; *The complete works of Aristotle* ed. by J. Barnes, II vols (Princeton 1984) I, 1111-1218 (A. Platt—originally from *The Works of Aristotle*, vol. V, Oxford 1912). See W. Lameere, 'Au temps où Franz Cumont s'interrogeait sur Aristote', *Ant. Class.* 18 (1949) 273-324, esp. 293-294; A.L. Peck, 'The connate *Pneuma*' (1953) I, 111-121; P. Moraux, 'À propos du νοῦς θύραθεν chez Aristote', *Autour d'Aristote. Recueil d'études de philosophie ancienne et médiévale offert à A. Mansion* (Louvain 1955) 255-295; F. Solmsen, 'The vital heat, the inborn *pneuma* and the

This is a central passage in the work *De generatione animalium*. I intend to argue that it is also a central passage in Aristotle's entire philosophy of living nature. For it does not connect the quality of soul or of life with the quality of a living creature's visible body but with the degree in which a soul's *dynamis* has something of a 'more divine body'. The text is therefore at odds with the traditional interpretation of Aristotle's psychology in *De generatione animalium* as hylomorphic (in the sense that it views the soul as the entelechy of the entire, *visible* body of a plant, animal, or human being).

This text raises six questions.

1. What is the exact meaning of 'the *dynamis* of every soul'?
2. Of what '*sôma* different from and more divine than the so-called elements' does the *dynamis* of every soul have something?
3. How are we to interpret 'having something' of a more divine element?
4. What is meant by 'differences in worth or unworth' of souls?
5. What does the text exactly designate as the basis for the difference in souls' worth or unworth?
6. What are the consequences of Aristotle's view here for our understanding of *De anima* II 1, where he defines the soul as the *eidos* or the entelechy of a 'natural body'?

aether', *J.H.S.* 77 (1957) 119-123; repr. *Kleine Schriften* vol. I (Hildesheim 1968) 605-611; C. Lefèvre, *Sur l'évolution d'Aristote en psychologie* (Louvain 1972) 251ff and passim; A. Preus, 'Science and philosophy in Aristotle's *De generatione animalium*', *J. Hist. Biology* 3 (1970) 1-52; id. *Science and philosophy in Aristotle's biological works* (Hildesheim/New York 1975); A. Code, 'Soul as efficient cause in Aristotle's *Embryology*', *Philosophical Topics* 15 (1987) 51-59; repr. in L.P. Gerson (ed.) *Aristotle. Critical assessments* (London 1999) vol. II 297-304; J.M. Rist, 'On Greek biology, Greek cosmology and some sources of theological Pneuma', *Prudentia*, Supplem. vol. (Auckland 1985) 27-47; repr. in id. *Man, soul and body. Essays in ancient thought from Plato to Dionysius* (Aldershot 1996); H. Busche (2001) 72ff. *Aristotle's De motu animalium*, text with transl., comm. and interpretive essays by M.C. Nussbaum (Princeton 1978; repr. 1985) especially 143-164; A. Coles, 'Animal and childhood cognition in Aristotle's biology and the scala naturae', W. Kullmann; S. Föllinger (eds), *Aristotelische Biologie. Intentionen, Methoden, Ergebnisse* (Stuttgart 1997) 287-323. Coles covers very much the same ground as I do; our conclusions, however, are rather different. G. Freudenthal, *Aristotle's theory of material substance. Heat and pneuma, form and soul* (Oxford 1995) 106ff. deals with the same topic, but is not very helpful. F. Rüsche, *Das Seelenpneuma. Seine Entwicklung von der Hauchseele zur Geistesseele. Ein Beitrag zur Geschichte der antiken Pneumalehre* (Paderborn 1933; repr. New York) had a primarily theological interest. On H.A.T. Reiche, *Empedocles' mixture, Eudoxan astronomy and Aristotle's connate pneuma* (Amsterdam 1960) see F. Solmsen, *A.J.P.* 84 (1963) 91-94.

What is meant by 'the dynamis of every soul'?

Why does Aristotle here speak about 'the *dynamis* of every soul' and not about 'every soul'?

Aristotle introduced an important new element in the study of the soul by distinguishing between the activity of the soul or soul-part and the potentiality of this activity.⁴⁸ Every tulip bulb and every potato contains a vegetative soul, but this soul only manifests its vegetative potentiality when the bulb or potato has been planted in good soil with a suitable degree of warmth and moistness. Human semen, however, contains, besides a vegetative soul-potentiality, also a sensitive, locomotive, and rational soul-potentiality.⁴⁹ Souls of sublunary creatures are not fully functioning from the outset in the individual but must first undergo a process of 'development' to fully realize their proper level of life.

Also, when speaking about the '*dynamis*' of every soul we have to keep in mind that in *De anima* II 1 Aristotle states that 'matter' is *dynamis*. And of the composite substance that is formed by 'the soul and its *sōma physikon organikon*' it is the 'natural body' that is the matter and that which 'has life potentially'⁵⁰.

Another important point is that the text directly follows a passage which says that the intellect is the only soul-function to enter 'from outside', because no somatic activity has a relationship with the intellect's activity.⁵¹ For although the intellect in act has no material

⁴⁸ *Anim.* II 1, 412a23: ἐν γὰρ τῷ ὑπάρχειν τὴν ψυχὴν καὶ ὕπνος καὶ ἐργήγορσίς ἐστιν. Cf. *Gener. anim.* II 1, 735a4-26: πότερον δ' ἔχει ψυχὴν τὸ σπέρμα ἢ οὐ; ... δῆλον οὖν ὅτι καὶ ἔχει καὶ ἐστὶ δυνάμει and II 3, 736b8: Τὴν μὲν οὖν θρεπτικὴν ψυχὴν τὰ σπέρματα καὶ τὰ κυήματα τὰ μήπω χωριστὰ δῆλον ὅτι δυνάμει μὲν ἔχοντα θετέον, ἐνεργεία δ' οὐκ ἔχοντα πρὶν ἢ καθάπερ τὰ χωριζόμενα τῶν κυημάτων ἔλκει τὴν τροφὴν καὶ ποιεῖ τὸ τῆς τοιαύτης ψυχῆς ἔργον. Cf. 737a16-18. See A. Preus (1970) 23-26; C. Lefèvre (1972) 253.

⁴⁹ This is the purport of *Anim.* II 1, 412b24-27: ἔστι δὲ οὐ τὸ ἀποβεβληκὸς τὴν ψυχὴν τὸ δυνάμει ὄν ὥστε ζῆν, ἀλλὰ τὸ ἔχον· τὸ δὲ σπέρμα καὶ ὁ καρπὸς τὸ δυνάμει τοιονδὶ σῶμα. Cf. 412a9-27. This point is not fully recognized in the recent study by J. Hübner, 'Die Aristotelische Konzeption der Seele als Aktivität in *de Anima* II 1', *A.G.Ph.* 81 (1999) 1-32.

⁵⁰ Arist. *Anim.* II 1, 412a17-20: οὐκ ἂν εἴη σῶμα ἢ ψυχὴ· οὐ γάρ ἐστι τῶν καθ' ὑποκειμένου τὸ σῶμα, μᾶλλον δ' ὥς ὑποκείμενον καὶ ὕλη. ἀναγκαῖον ἄρα τὴν ψυχὴν οὐσίαν εἶναι ὥς εἶδος σώματος φυσικοῦ δυνάμει ζωὴν ἔχοντος.

⁵¹ *Gener. anim.* II 3, 736b27-29: λείπεται δὴ τὸν νοῦν μόνον θύραθεν ἐπεισιεῖναι καὶ θεῖον εἶναι μόνον· οὐθὲν γὰρ αὐτοῦ τῇ ἐνεργείᾳ κοινωνεῖ (ἢ) σωματικὴ ἐνέργεια (Drossaart Lulofs). Perhaps the correction (ἢ) is unnecessary here. This text is discussed at length in P. Moraux (1955); A. Preus (1970) 32-34.

substrate⁵², the *nous*-in-potency is a potentiality (*dynamis*) of the soul!

What Aristotle is therefore saying here is that the *dynamis* of every soul has something of this ‘more divine body’, and therefore ‘the *dynamis* of the human soul’ as well, which includes a potentiality of intellect. This means that human semen passes on all soul-potentialities to a new individual, and it does so because the semen contains something of a ‘more divine body’. So the potentiality of intellect is also transferred via semen, even though the activity of the-intellect-in-act is the only activity without a somatic basis.⁵³

It is wrong to translate the passage 736b29-31 as: ‘The power of a different and more divine body ... seems to be connected with every soul’, as P. Moraux has proposed. This incorrect starting-point renders invalid Moraux’s entire explication of this passage.⁵⁴

What is the ‘different and more divine body’?

The ‘different and more divine body’ must be identical with the astral body mentioned in 737a1. It must be the fifth element, moving in a circular orbit, which is always designated as ether, but which Aristotle also calls the ‘first body’ or the ‘first corporeal substance’.⁵⁵ He even adds that this body is so much higher in worth (τιμιωτέρων) as it is further removed from things here⁵⁶. The way Aristotle formulates

⁵² The intellect-in-act does not have an ‘instrumental body’ like the sensitive part of the soul: *Anim.* III 4, 429a24-27: διὸ οὐδὲ μεμίχθαι εὐλογον αὐτὸν τῷ σώματι· ποιός τις γὰρ ἂν γίγνοιτο, ἢ ψυχρὸς ἢ θερμὸς, κἂν ὄργανόν τι εἴη, ὥσπερ τῷ αἰσθητικῷ· νῦν δ’ οὐθὲν ἔστιν.

⁵³ This point is not recognized by Moraux (1955), because he has not connected δύναμις in 736b30 with πάσης ψυχῆς. See n. 54 below. He therefore claims on p. 281: ‘la théorie de l’acte et de la puissance n’y intervient pas’; see also 277; 284. P. Allen, *The concept of woman. The aristotelian revolution 750 BC – AD 1250* (Montreal 1985) 100 wrongly states: ‘Aristotle did not perceive reason as present even potentially in the male seed’.

⁵⁴ P. Moraux (1955) 277: ‘Il semble qu’en connexion avec tout âme se trouve la vertu d’un élément différent ...’, with n. 53. In that case one would expect a sentence like: Πᾶσα μὲν οὖν ψυχή ἐτέρου δυναμέως σώματος ἔοικε κεκοινωνηκέναι καὶ Moraux’ interpretation is rejected by D.M. Balme (1972) 163. A.J. Festugière, *R.E.G.* 58 (1945) 30 translated: ‘La nature propre (δύναμις) de l’âme prise en sa totalité semble participer...’.

⁵⁵ Cf. *Cael.* I 2, 269a18-32, with the conclusion in a30: ἔκ τε δὴ τούτων φανερόν ὅτι πέφυκε τις οὐσία σώματος ἄλλη παρὰ τὰς ἐνταῦθα συστάσεις, θειότερα καὶ προτέρα τούτων ἀπάντων.

⁵⁶ *Cael.* I 2, 269b15-17; see also 3, 270a12-b11. We find Aristotle connecting rank and location also in *Gener. anim.* III 11, 761b13-23 below; see also *Iuv.* 20/ *Resp.* 14,

his thoughts in *De generatione animalium* II 3, 736b29-737a7 is interesting, because in b29-31 he contrasts the 'more divine body' with 'the so-called elements'. This seems to suggest that the 'more divine body' does not belong to 'the elements'.⁵⁷ But in 737a1 he speaks freely about 'the element of the stars'.⁵⁸ We should consider here, first, that the four sublunary bodies are the 'elements' of the compound visible bodies of all that lives. The astral element is not a component of these mortal compound bodies. But it is one of the elements of the cosmos as a whole. And it is also what the bodies of the celestial gods (planets and stars) are made of. Second, Aristotle argues in *De generatione et corruptione* II 2 that the four sublunary elements should properly be seen as 'compounded' of the qualities hot, cold, moist, and dry plus matter.⁵⁹ This last cannot be said of the astral element, which is often referred to in the tradition as *ἀύλον σῶμα*. So perhaps Aristotle is saying in b29-31: compared with the astral element, the sublunary natural bodies are 'elements' only in a certain sense.

However, P. Moraux has vehemently denied the identity of the 'other and more divine body' with the astral body and he used this passage as an important testimony against the reliability of Cicero's reports that Aristotle regarded the human rational soul as consisting of a *quinta natura* or *quinta essentia*: 'Dass dieser zusätzliche "göttliche" Körper nicht identisch ist mit dem Äther, aus dem die Gestirne bestehen, ergibt sich aus unserem Text ganz deutlich: zwischen den beiden gibt es nur ein Analogieverhältnis'.⁶⁰ But Moraux's denial is a result of 'Systemzwang': his interpretation of the text of *De generatione animalium* II 3 is based on his view of Aristotle's psychology as a whole and particularly on an incorrect interpretation of *De anima* II 1.

477a27-31.

⁵⁷ Similarly in *Cael.* I 3, 270a29-35 Aristotle sets the 'first body' against the 'bodies of the elements'.

⁵⁸ Cf. *Cael.* III 1, 298b6. *Meteor.* I 1, 338b21: τοῦ πρώτου στοιχείου τῶν σωμάτων.

⁵⁹ Cf. *Part. anim.* II 1, 646a13: πρώτην μὲν ἂν τις θεῖη (σύνθεσιν) τὴν ἐκ τῶν καλουμένων ὑπὸ τινῶν στοιχείων, οἷον γῆς, ἀέρος, ὕδατος, πυρός. ἔτι δὲ βέλτιον ἴσως ἐκ τῶν δυνάμεων λέγειν... Cf. *Gener. anim.* I 1, 715a10: τοῦτοις δὲ [scil. τοῖς ὁμοιομερέσι ὕλη ἐστὶ] τὰ καλούμενα στοιχεῖα τῶν σωμάτων.

⁶⁰ P. Moraux, 'Quinta essentia', *P.W.-R.E.* 47 Halbbd (Stuttgart 1963) 1206. This seems to imply that besides divine ether Aristotle presented another *sōma* as 'different from and more divine than the so-called elements'. But we never hear anything about such a 'sixth element' in Aristotle's works.

What is meant by 'has something of'?

What can be meant by the statement that the *dynamis* of every soul 'has something of' the astral element?⁶¹ There are various considerations here. Certainly the term *κεκοινωνηκέναι* makes it clear that Aristotle does not fully identify the *dynamis* of every soul with the 'more divine body'. This text offers no basis for a materialistic or hylozoistic interpretation of Aristotle's psychology.⁶² On a first reading one would be inclined to translate: 'the *dynamis* of every soul seems to participate⁶³ in a different and more divine body'. The objection to this is that if we take the words 'the *dynamis* of every soul' to refer to something abstract like 'faculty' or 'function', that would be like a Platonist saying that an Idea 'participates' in a physical body. However, translating 'participate in' would make sense if we can take '*dynamis*' in the sense of the (fine-)corporeal basis of the soul as indicated in *De anima* II 1, 412a6-21. Then we might interpret our text in the sense that the '*sôma organikon* of every soul' 'participates' in the astral body.

In any case, Aristotle does posit a close relationship between the *dynamis* of every soul and this 'more divine body'. There is one

⁶¹ 'To have something of' is my translation of *κεκοινωνηκέναι*. A.L. Peck (1942) 171, has: 'the faculty of soul of every kind has to do with some physical substance ...'. He comments on p. 582 n. b: '*κεκοινωνηκέναι*, a usefully vague term; but at any rate it must be intended to denote a close relationship'. Cf. the variation in meaning in *Gener. anim.* III 11, 761b8: ἡ δὲ θάλαττα ... *κεκοινωνήκε πάντων τῶν μορίων*, I 23, 731a35-b2: *κοινωνεῖν ἀφῆς καὶ γεύσεως*, III 3, 753a11: *τοῖς κοινωνοῦσι φρονήσεως* and III 11, 761b22: *κοινωνοῦσα τῆς τετάρτης ἀποστάσεως*. In IV 10, 777b24 Aristotle says that the moon has a *κοινωνία* with the sun by sharing in the light of the sun. A *koinônia* between the soul and the body which incorporates the soul is mentioned in *Anim.* I 3, 407b17-19. Cf. *Resp.* 17, 479a8: ἡ δ' ἀρχὴ τῆς ζωῆς ἐκλείπει τοῖς ἔχουσιν, ὅταν μὴ καταψύχῃται τὸ θερμὸν τὸ κοινωνοῦν αὐτῆς. A very special text is *Long.* 2, 465a30-32: ἄλλως ἂν ἔχοι (sc. ἡ ψυχὴ) πρὸς τὴν τοῦ σώματος κοινωνίαν.

⁶² J. Pépin, *Théologie cosmique et théologie chrétienne* (Paris 1964) 230-231, also notes: 'Que l'identification de l'âme au cinquième élément n'ait pas été vraiment formulée dans le *corpus aristotelicum*, c'est bien certain; nous avons dit au prix de quels artifices le texte du *De generatione animalium* pouvait être exploité dans ce sens; en fait, l'idée qui s'en dégage n'est pas que l'élément astral constitue la substance même de l'âme, mais simplement son substrat matériel le plus proche, son ὄχημα.' Yet Pépin's entire book, in sharp contrast with the view of P. Moraux (1963), aims at demonstrating that Aristotle's lost work *De philosophia* did present the fifth element as substance of the soul. The views of both authors must be rejected. I believe Aristotle always conceived of the fifth element as indissolubly connected with 'the body which is the instrument of the soul'.

⁶³ P. Louis (1961) 61, translates: 'la nature propre de toute espèce d'âme semble participer à un corps qui diffère de ce qu'on appelle les éléments'. Likewise D. Lanza (1971) 894: 'sembrava ... aver parte di un corpo'.

evident category of souls of which Aristotle assumed a close relationship with the 'more divine body': the celestial beings were presented by him as possessing soul.⁶⁴ Their bodies consist (totally) of this 'more divine body'. However, in *De generatione animalium* Aristotle speaks about the generation of (mortal) living creatures in the sublunary sphere. At first sight, therefore, his statement means that the *dynamis* of the soul of every plant, every animal, and every human being has something of the 'more divine element' of which the (visible) bodies of the celestial beings consist. So although a plant or insignificant animal cannot be compared in value with the divine celestial beings, Aristotle claims here that wherever life or the possibility of life manifests itself in the sublunary sphere, we also find a presence of the divine.⁶⁵

Aristotle expresses the same idea in *De generatione animalium* III 11, where he argues that, *pneuma* being everywhere, 'all things are in some sense full of soul'.⁶⁶ Aristotle here is clearly alluding to the statement attributed to Thales: 'all things are full of gods'.⁶⁷ The combination of the text of III 11 with that of II 3 shows that Aristotle can interpret the sentence 'all things are full of soul' as 'all things are full of the manifestation of divine reality'.⁶⁸

However, there is a clear difference between sublunary living creatures and celestial ones. The souls of celestial living beings form a composite substance with (their part of) that more divine body and

⁶⁴ *Cael.* II 12, 292a18-b2; II 2, 285a29.

⁶⁵ Hence Aristotle can argue in *Part. anim.* I 5 that even the study of living creatures which 'are of less value' (645a16: τῶν ἀτιμωτέρων ζώων) offers some compensation for our limited ability to know the divine celestial beings (though knowledge of the celestial beings would be of the highest value—644b32). He quotes here Heraclitus' famous statement: 'there are gods here too' (645a23: εἶναι γὰρ καὶ ἐνταῦθα θεοὺς).

⁶⁶ *Gener. anim.* III 11, 762a21: ὥστε τρόπον τινὰ πάντα ψυχῆς εἶναι πλήρη. Cf. A. Preus (1975) 86-89.

⁶⁷ Cf. Arist. *Anim.* I 5, 411a7-11; *Mu.* 6, 397b16-19.

⁶⁸ In his note on *Gener. anim.* III 11, 762a1 P. Louis says that Aristotle in *Anim.* I 5 recognized a problem in the view that 'all things are full of soul', viz. that no living creatures are generated in the spheres of air and fire. Cf. W. Lameere (1949) 285-286. But there is no reason for solving this problem by hypothesizing a development, as Louis does, because Aristotle clearly explained the preconditions for spontaneous generation in *Gener. anim.* III 11, 761b8-11: all four sublunar elements have to be available because the visible bodies of mortal living beings are to be produced out of these elementary bodies. Another important text connected with Louis' problem is *Gener. anim.* III 11, 761b15-22, where Aristotle makes it clear that soul-principles can be clothed in instrumental bodies consisting of each of the four sublunary elements and that this determines their quality of life. On this text, see below.

are in no way related to the elements of the sublunary sphere. Living creatures in the sublunary sphere possess a visible body consisting of the four sublunary elements⁶⁹. But now the *dynamis* of sublunary souls is said to have something of the 'more divine body'. This presence of the more divine body must already exist for the soul that is present in the semen, before the formation of all parts of a living creature. For, as we saw above, Aristotle says in *De generatione animalium* II 1 that the semen must contain something material which, as the vehicle of the soul, is responsible for the formation of the visible body of the new individual⁷⁰. What, then, does Aristotle mean when he says that the *dynamis* of every soul has something of a 'more divine body'?

In his extant writings we find only the view that the soul 'is not a body but something of a body' and 'is not without body'.⁷¹ In the positive exposition of his own psychological theory Aristotle had presented the soul as the *eidos* or entelechy of a 'natural body'.⁷² Here in *De generatione animalium* II 3 we find the emphatic statement that the *dynamis* of every soul (so also that of sublunary creatures) has something of the natural body which the astral element is. How are these two statements related? Remarkably, Aristotle in *De anima* does not speak about every soul having something of 'a more divine body'. But he does start this work with the assertion that study of the soul is 'worthwhile' compared with almost all other studies, for one because the soul itself is of a higher order and more admirable than all kinds of other matters.⁷³ If we can link the statement in *De generatione animalium* II 3 with what Aristotle says in *De anima*, we can also support the assertion in *De anima* I 1 that the soul is 'higher in worth' with the claim in *De generatione animalium* II 3 that the *dynamis* of every soul seems to have something of the divine body of which the stars and planets consist.

The text in *De generatione animalium* II 3 certainly does not say that 'the *dynamis* of every soul' is the *eidos* or entelechy of the 'more divine body'. But according to *De anima* II 1 every soul is the *eidos* or entelechy of a natural body. We must try to understand how the two

⁶⁹ Cf. *Gener. anim.* I 1, 715a11; *Part. anim.* II 1, 646a13-15.

⁷⁰ Arist. *Gener. anim.* II 1, 733b31-734a16. Cf. A.L. Peck (1953) 117.

⁷¹ *Anim.* II 2, 414a19-21: καλῶς ὑπολαμβάνουσι οἷς δοκεῖ μὴτ' ἄνευ σώματος εἶναι μήτε σώμα τι ἢ ψυχὴ· σῶμα μὲν γὰρ οὐκ ἔστι, σώματος δέ τι. *Gener. anim.* II 4, 738b26: ἡ γὰρ ψυχὴ οὐσία σώματός τινός ἐστιν.

⁷² *Anim.* II 1, 412a19-21.

⁷³ *Anim.* I 1, 402a2: study of the soul is worthwhile κατ' ἀκρίβειαν and τῷ βελτιόνων τε καὶ θαυμασιωτέρων εἶναι.

statements in combination may have been understood by Aristotle: 'the soul is the *eidos* and the entelechy of a natural body' and 'the *dynamis* of every soul has something of the astral (natural) body'. We need to ask in what way the relationship of the soul of a plant, animal, or human being with the astral body is different from that of a planet's soul with its astral body. It is crucial here that differences in worth between souls in the sublunary sphere somehow have to do with differences in this relationship. But Aristotle's wording is not immediately clear. After saying that the *dynamis* of every soul has something of 'the more divine body', he says that 'the differences in worth or unworth between the souls correspond with the differences in this substance'.⁷⁴

However, he cannot mean that 'the more divine body' as such can display different qualities.⁷⁵ Nature deliberately kept the astral element outside the sphere of contraries.⁷⁶ So this element as such cannot admit of distinctions of more or less. But there may be differences in the relationship of souls with the astral element. In that case souls have something of the 'more divine body' because they have something that is present in semen and in *pneuma* and that can be called a 'substance' (*physis*),⁷⁷ a substance which is not identical with the astral element but is an analogue of it. This means that something is connected with sublunary soul-principles which is not identical with the astral body but is somehow structurally related to it.

If, in accordance with *De anima* II 1, we might suppose that 'the *dynamis* of every soul' is identical with 'the instrumental natural body'⁷⁸ of which the soul is said to be the form, we could conclude that the

⁷⁴ *Gener. anim.* II 3, 736b31-33: ὡς δὲ διαφέρουσι τιμιότητι αἱ ψυχὰ καὶ ἀτιμίᾳ ἀλλήλων οὕτω καὶ ἡ τοιαύτη διαφέρει φύσις. A.L. Peck (1942) 171 translates here: 'and as the varieties of soul differ from another in the scale of value, so do the various substances concerned with them vary in their nature'; in the same line G. Freudenthal; P. Louis has: 'Mais de même que les facultés de l'âme se distinguent les unes des autres par une valeur plus ou moins grande, de même aussi la nature de ces (*sic*) corps est différente'; C. Lefèvre (1972) 256: 'de même que les âmes diffèrent entre elles ..., cet élément naturel présente les mêmes différences'; A. Platt, in J. Barnes vol. I, 1143 has: 'The faculty of all kinds of soul seems to have a connection with a matter different from and more divine than the so-called elements; but as one soul differs from another in honour and dishonour, so differs also the nature of the corresponding matter'.

⁷⁵ *Contra* D.M. Balme (1972) 162, who claims: 'soul associates with a diviner body, whose nature varies in value'.

⁷⁶ *Cael.* I 3, 270a20-21. This point was strongly emphasized by P. Moraux (1963) 1206.

⁷⁷ Cf. *Gener. anim.* II 3, 736b37: ἡ ἐν τῷ πνεύματι φύσις.

⁷⁸ Cf. *Anim.* II 1, 412a27-28; b5-6: σῶμα φυσικὸν ὁργανικόν.

influence of the astral body differs in accordance with the quality of the (sublunar) instrumental body that has something of the astral body. In this way Aristotle can stick to his theory of the divinity and superiority of the fifth element as well his location of this element in the supralunary sphere. At the same time he can argue that the effect of the astral element is manifest in the sublunary sphere, in gradations that depend on the quality of the instrumental body that receives it.

Thus Aristotle believes that life in the sublunary sphere can only be explained as an effect of a soul-principle in combination with a manifestation of the astral body's power. This effect may differ depending on whether a sublunary (instrumental) body is more or less suited to receive the power of the astral body. Aristotle speaks about 'vital heat' or 'vital fire' or about '*pneuma*' as something of the sublunary substances with a somatic nature, but containing an operative substance deriving from the astral body. The soul as incorporeal form or entelechy is seen to be inextricably connected with such a 'natural body'. So this 'natural body' is not identical with ordinary sublunary 'fire'⁷⁹ or 'ordinary air', but is 'vital fire' or *pneuma* or its analogon. It is the manifestation of the astral, divine element within the sublunary sphere. To this extent Aristotle can call *pneuma* (and its analogue in lower animals) an analogue of ether.

Aristotle appears even to speak freely about 'vital heat' as 'natural' or 'psychic fire'⁸⁰ and about the heart as the place where 'the soul ignites'.⁸¹ The distinction between harmful, destructive fire and life-giving, creative fire, associated especially with the Stoa,⁸² is in fact a product of Aristotle's biological studies.

How do souls differ in value?

What does Aristotle mean by 'differences in worth and unworth'?

Aristotle assumed an axiological hierarchy of souls, in which the vegetative soul is lower than the animal soul and the animal soul is

⁷⁹ Cf. *Gener. anim.* II 3, 737a1-7; *Anim.* II 4, 416a9-18.

⁸⁰ Cf. *Resp.* 6, 473a6-8; 474b10-12; 15, 478a16; *Part. anim.* II 3, 650a14; 7, 652b9. Perhaps *Long.* 3, 465b2: πῦρ ἄνω is also an example, because we should take it as 'the fire in the higher part of the living being'. Cf. 6, 467a33!

⁸¹ *Resp.* 8, 474a25; 474b12-13; 16, 478a30 (cf. *Iuv.* 4, 469b13-17). See also *Part. anim.* II 8, 654a7.

⁸² Cf. *S.V.F.* I 120; II 682.

lower than the human soul. Within the plant world,⁸³ the animal kingdom, and the human world, Aristotle proposed further distinctions, relative to the possession of just one sensory function (touch), or more, or all five, and based on the (non-)possession of the memory function and the ability to grasp a general characteristic on the basis of repeated observations⁸⁴. A strong and clear statement in *Nicomachean Ethics* X 7 is significant: 'In view of the fact that the intellect is something divine in relation to man, a life directed by the intellect is a divine life in relation to a human life'. For although the intellect does not have an impressive volume, 'it far surpasses everything else in power and worth'.⁸⁵

Aristotle also discusses differences in quality of life in *De generatione animalium* I 23. He says there that reproduction is proper to everything that lives. But animals and humans (unlike plants) also share in a kind of knowledge. For they have sense-perception. And sense-perception is a certain kind of knowledge. And the value and lack of value of this knowledge can be determined by observing that compared to intelligence the possession of touch and taste only seems like nothing, but compared with a plant or a stone it seems impressive.⁸⁶

De respiratione 13 also mentions a difference in worth between living creatures. It states that man is highest in the scale of value. This hierarchy is linked with possession of a 'soul which is higher in worth'. In this context Aristotle also posits a direct correlation with the amount of vital heat, and the pureness and quantity of blood.⁸⁷

⁸³ Cf. *Hist. anim.* VIII 1, 588b8: τῶν φυτῶν ἕτερον πρὸς ἕτερον διαφέρει τῷ μᾶλλον δοκεῖν μετέχειν ζωῆς.

⁸⁴ Cf. *Metaph.* A 1, 980a27-981a7; *Anal. post.* II 19; *Hist. anim.* VIII 1, 589a1; IX 1, 608a17: ζῷα κοινωνοῦντα μνήμης, μαθήσεως. *Anim.* II 2, 413b29-414a2; 3, 414b15-19 with b18: ἑτέροις δὲ καὶ τὸ διανοητικόν τε καὶ νοῦς, οἷον ἀνθρώποις καὶ εἴ τι τοιοῦτον ἕτερον ἔστιν ἢ τιμιώτερον.

⁸⁵ *Nic. Eth.* X 7, 1177b30: εἰ δὴ θεῖον ὁ νοῦς πρὸς τὸν ἄνθρωπον, καὶ ὁ κατὰ τοῦτον βίος θεῖος πρὸς τὸν ἀνθρώπινον βίον and 1177b34: εἰ γὰρ καὶ τῷ ὄγκῳ μικρόν ἐστι, δυνάμει καὶ τιμιότητι πολὺ μᾶλλον πάντων ὑπερέχει.

⁸⁶ *Gener. anim.* I 23, 731a30-b2: τοῦ δὲ ζῶου οὐ μόνον τὸ γεννῆσαι ἔργον ... ἀλλὰ καὶ γνώσεώς τινος πάντα μετέχουσι, τὰ μὲν πλείονος τὰ δ' ἐλάττονος τὰ δὲ ἀάπαν μικρῶς. αἰσθησιν γὰρ ἔχουσιν, ἢ δ' αἰσθησις γνώσεώς τις. ταύτης δὲ τὸ τίμιον καὶ ἄτιμον πολὺ διαφέρει πρὸς φρόνησιν καὶ πρὸς τὸ τῶν ἀψύχων γένος. πρὸς μὲν γὰρ τὸ φρονεῖν ὥσπερ οὐδὲν εἶναι δοκεῖ τὸ κοινωνεῖν ἀφῆς καὶ γέυσεως μόνον, πρὸς δὲ φυτὸν ἢ λίθον θαυμασίον.

⁸⁷ *Resp.* 13, 477a16: τὰ τιμιώτερα τῶν ζῶων πλείονος τετύχηκε θερμότητος· ὅμα γὰρ ἀνάγκη καὶ ψυχῆς τετυχηκέναι τιμιωτέρας. τιμιώτερα γὰρ ταῦτα τῆς φύσεως τῶν ψυχρῶν. διὸ καὶ τὰ μάλιστα ἐναιμον ἔχοντα τὸν πνεῦμονα καὶ θερμὸν μείζονά τε τοῖς μεγέθεσι, καὶ τό γε καθαρωτάτῳ καὶ πλείστῳ κεχηρμένον αἷματι τῶν ζῶων ὀρθότατόν

This might be taken as a paraphrase of the central point of our text from *De generatione animalium* II 1: souls differ in worth according to the quantity of vital heat that living beings possess, i.e. according to how far their instrumental body derives from the element of the stars.

The basis of the difference in soul-value

Aristotle indicates why souls differ in value in *De generatione animalium* II 6. Within the realm of living creatures man is most endowed with understanding. This fact leads Aristotle to assume that man's vital heat has the best possible condition and is the most pure.⁸⁸ The passage makes it clear that Aristotle ascribes a certain degree of understanding (*phronēsis*) to other living creatures.⁸⁹ But it also shows that he relates this understanding and its degrees to the vital heat present in living creatures. So Aristotle is not speaking about *pneuma* as such here, but about the vital heat which is present in the *pneuma* of blooded creatures. Thus he essentially relates a very specific soul-function (*dianoia* or *phronēsis*) to a physical entity. But this physical entity is not the visible body as a whole or certain instrumental or sensitive parts of it. It is solely vital heat, which *De generatione animalium* II 3, 736b35 calls the result of the close relationship between the *dynamis* of every soul and the astral body.

In the *Historia animalium* Aristotle had posited that man's blood has the finest composition and highest degree of purity of all blooded creatures.⁹⁰ This entirely agrees with the above text on vital heat, inasmuch as blood is the vehicle of *pneuma* and vital heat.

ἐστίν, ὁ ἄνθρωπος (W.D. Ross). The manuscript tradition is here φυτῶν, not ψυχρῶν. Cf. also A. Coles (1997) 300ff.

⁸⁸ *Gener. anim.* II 6, 744a27-31: (human babies) τὸν ἐγκέφαλον ὑγρότατον ἔχουσι καὶ πλεῖστον τῶν ζώων, τοῦτου δ' αἴτιον ὅτι καὶ τὴν ἐν τῇ καρδίᾳ θερμότητα καθαρωτάτην. δηλοῖ δὲ τὴν εὐκрасίαν ἡ διάνοια· φρονιμώτατον γὰρ ἐστὶ τῶν ζώων ἄνθρωπος. Cf. P. Moraux (1955) 276-277.

⁸⁹ This is also the case in *Metaph.* A 1, 980b21-25, where bees are mentioned and animals like dogs and horses, which can be trained, are also meant. See also *Nic. Eth.* VI 7, 1141a27: τῶν θηρίων ἔνια φρόνιμά φασιν εἶναι, ὅσα περὶ τὸν αὐτῶν βίον ἔχοντα φαίνεται δύναμιν προνοητικὴν.

⁹⁰ *Hist. anim.* III 19, 521a2: Ἦχει δὲ λεπτότατον μὲν αἷμα καὶ καθαρώτατον ἄνθρωπος, παχύτατον δὲ καὶ μελάντατον τῶν ζωοτόκων ταῦρος καὶ ὄνος. See also the text of *Resp.* 13, 477a16ff. cited above. Cf. *Somn.* 3, 458a10-25 for clear differences in quality of blood in the higher and lower parts of the same living creature.

In *De generatione animalium* II 6, slightly further on, Aristotle distinguishes between the various parts of the visible body. One group he calls 'the highest in value and participating in the most dominant principle', the other 'necessary and subservient to the former'. These 'necessary' parts are, for instance, bone, sinew, hair, nails, hoofs, etc. They are formed from inferior food and residues. In the first group, which is formed from well-digested food of the purest and best kind, Aristotle puts the flesh but also the bodies of the other sense-organs.⁹¹

So we find here that the most valuable parts of the visible body are those which have a sensory function. These parts are said 'to participate in the most dominant principle'. Obviously this 'most dominant principle' must be the soul.⁹² However, if the soul itself is not present throughout the visible body, as *De motu animalium* 10 clearly states, this 'participation in the most dominant principle' takes place via the 'natural body' with which the soul is inextricably linked, i.e. via *pneuma*.

Another important conclusion can be drawn from this passage. Some parts of the visible body are said 'to participate in the most dominant principle', that is, the soul and the vehicle of the soul. This means that the other parts of the body do not participate in it, though they do result from the metabolic process which is led and dominated by the soul. So the view argued by Aristotle here is not *hylomorphic* in the sense that the soul is the entelechy of the entire visible body.

In *De generatione animalium* II 1 Aristotle also discusses a 'principle' of living creatures. He introduces a difference in quality of life based on a difference in the purity of this 'principle'. 'Those animals are viviparous which are more perfect in their nature and participate in a purer principle. For no living creature is viviparous which does not inhale *pneuma* and possess respiration. For those living creatures are

⁹¹ *Gener. anim.* II 6, 744b11-16: Τῶν δ' ἄλλων γίνεται μορίων ἕκαστον ἐκ τῆς τροφῆς, τὰ μὲν τιμιώτατα καὶ μετειληφότα τῆς κυριωτάτης ἀρχῆς ἐκ τῆς πεπεμμένης καὶ καθαρωτάτης καὶ πρώτης τροφῆς, τὰ δ' ἀναγκαῖα μόρια καὶ τούτων ἕνεκεν ἐκ τῆς χείρονος καὶ τῶν ὑπολειμμάτων καὶ περιττωμάτων. 744b22: ἡ φύσις ἐκ μὲν τῆς καθαρωτάτης ὕλης σάρκα καὶ τῶν ἄλλων αἰσθητηρίων τὰ σώματα συνίστησιν, ἐκ δὲ τῶν περιττωμάτων ὅστ' αὖ καὶ νεῦρα ... Aristotle speaks here about the 'other' senses because flesh in itself is the instrument for the sense of touch.

⁹² Cf. *Motu anim.* 10, 703a12: τὴν ἀρχὴν τὴν ψυχικὴν and a14: ἡ ἀρχὴ τοῖς μὲν ἐν τῇ καρδίᾳ τοῖς δ' ἐν τῷ ἀνάλογον.

more perfect which are by nature hotter and moister and not earth-like.⁹³

Evidently, in this text too, the 'principle of life' is not present in the entire visible body as such, but (for higher animals) in *pneuma*. The difference in quality of life is linked by Aristotle to the presence of *pneuma* or (for animals with a lower quality of life) an analogue of *pneuma*. Again a difference in the quality of *pneuma* is correlated to the degree of vital heat present in it.

In *De partibus animalium* Aristotle connects various differences between living creatures, not least in their level and quality of life, with differences in the condition of their blood. Blood can be thinner or thicker, purer or impurer, colder or hotter, both in one living creature compared with another, but also in one part of a living creature compared with another.⁹⁴ Aristotle goes on to associate these differences in the condition of blood with locomotive power, power of perception, and rational power, but also courage. And what goes for blood, goes for the analogue of blood in insects. They show comparable differences in quality of life. A higher quality of life is directly correlated by Aristotle with heat, thinness, and purity of blood.⁹⁵

This conception therefore relates psychic functions like sense-perception and locomotive power and rational capacity not to the visible body as a whole nor to the specific senses, but to the blood that pervades the entire body, and specifically to the vital heat in the blood.⁹⁶ It is also this vital heat in its various gradations and the

⁹³ *Gener. anim.* II 1, 732b28-32: ζωοτοκεῖ μὲν τὰ τελεώτερα τὴν φύσιν τῶν ζῴων καὶ μετέχοντα καθαρωτέρας ἀρχῆς· οὐθὲν γὰρ ζωοτοκεῖ ἐν αὐτῷ μὴ δεχόμενον τὸ πνεῦμα καὶ ἀναπνέον. τελεώτερα δὲ τὰ θερμότερα τὴν φύσιν καὶ ὑγρότερα καὶ μὴ γεώδη. The term 'not earth-like' relates to 'the body which contains the soul-principle' and not to the visible body as a whole, as I will show in the following. Cf. *Part. anim.* IV 10, 686b27 and *Gener. anim.* III 11, 761b13-15.

⁹⁴ *Part. anim.* II 2, 647b29-648a2. Cf. A. Coles (1997) 299ff.

⁹⁵ *Part. anim.* II 2, 648a3: "Ἔστι δ' ἰσχύος μὲν ποιητικώτερον τὸ παχύτερον αἷμα καὶ θερμότερον, αἰσθητικώτερον δὲ καὶ νοερώτερον τὸ λεπτότερον καὶ ψυχρότερον α9: ἄριστα δὲ τὰ θερμὸν ἔχοντα καὶ λεπτὸν καὶ καθαρὸν· ἅμα γὰρ πρὸς τ' ἀνδρείαν τὰ τοιαῦτα καὶ πρὸς φρόνησιν ἔχει καλῶς.

⁹⁶ Note that this seems to presuppose a psychology in which the soul's relationship with the visible body is 'instrumentalist' rather than 'hylomorphic'. It also implies a theory of perception in which the senses are not independent of each other (as I. Block, 'The order of Aristotle's psychological writings', *Am. J. of Philol.* 82 (1961) 50-77, 62ff., argued for *De anima*), but form an integrated system of perception in which all senses are connected with a centre of perception, the seat of the *sensus communis*. See my paper 'Het gehele lichaam dat waarnemingsvermogen bezit (Arist. *Anim.* II 1, 412b24-25)', *Alg. Ned. Tijdschr. Wijsb.* 91 (1999) 112-128.

balance of dryness and moistness which govern death and life, sleeping and waking, youth and old age, and disease and health.⁹⁷

In this connection *De partibus animalium* IV 10 has an interesting criticism of Anaxagoras. He had postulated that man is the most intelligent living creature because he possesses hands. Aristotle turns this round: because man possesses the highest degree of reason, he received hands as an instrument from nature.⁹⁸

In *De partibus animalium* II 4 Aristotle gives examples in which the thinness and purity of blood rather than its heat enable rapid perception and discernment.⁹⁹ Further on he mentions instances of fear, rage, and irrational fury.¹⁰⁰

Another interesting remark is that in terms of their rational capacity birds and fish are to human beings as children or dwarves are to adult human beings. The reason for this is that 'in many cases the soul-principle is slow and corporeal'.¹⁰¹ So here Aristotle does present the rational function as a function of the soul. In dwarves and small children 'the principle of this soul' is too lethargic and too corporeal. At first sight the term 'corporeal' here seem strangely at odds with the claim in our primary text that the faculty of every soul has a structural relationship with a special *sōma*. The solution is obvious. The 'corporeality' mentioned here implies an inferior quality of the materiality of the soul's vehicle.¹⁰² The effect of the 'divine body' in the souls of small children and dwarves and in those of fish and birds differs from its effect in adult human beings because a pure and hot and subtle *pneuma* is present and active in the latter.

In *De generatione animalium* II 1 Aristotle also discusses living creatures which are higher in value than others. The subject there is the difference between animals which are divided into male and female. Of these the males of the higher kinds produce and ejaculate semen.¹⁰³

⁹⁷ *Part. anim.* II 2, 648b2-6.

⁹⁸ *Part. anim.* IV 10, 687a8: 'Αναξαγόρας μὲν οὖν φησι διὰ τὸ χεῖρας ἔχειν φρονιμώτατον εἶναι τῶν ζώων ἀνθρώπων· εὐλογον δὲ διὰ τὸ φρονιμώτατον εἶναι χεῖρας λαμβάνειν. αἱ μὲν γὰρ χεῖρες ὄργανόν εἰσιν, ἡ δὲ φύσις αἰεὶ διανέμει ... ἕκαστον τῷ δυναμένῳ χρηῖσθαι.

⁹⁹ *Part. anim.* II 4, 650b19-23.

¹⁰⁰ *Part. anim.* II 4, 650b27-651a1.

¹⁰¹ *Part. anim.* IV 10, 686b27: αἵτιον δ', ὥσπερ εἴρηται πρότερον, ὅτι ἡ τῆς ψυχῆς ἀρχὴ πολλοῖς δὴ δυσκίνητός ἐστι καὶ σωματώδης.

¹⁰² Cf. *Part. anim.* III 2, 663b24: τὸ σωματῶδες καὶ γεῶδες and *Gener. anim.* III 11, 761b1, where fresh water is compared with salt water: τὸ μὲν γὰρ πότιμον γλυκὺ μὲν καὶ τρόφιμον, ἦττον δὲ σωματῶδες καὶ ψυχρόν ἐστιν and 761b8-10.

¹⁰³ On this distinction, see *Gener. anim.* I 17, 721a30-b2; I 21, 729b22-33; II 4,

Aristotle describes in great detail the way in which lower kinds procreate. But when he tries to explain why the male of one species emits semen into a female, he notes that the animals which 'are higher in value are more self-sufficient. Hence they are larger; and this has to do with their psychic heat. For larger bodies need to be moved by a greater force; and vital heat is something which possesses motive force'.¹⁰⁴

Spontaneous generation

Discussing non-sexual production of new living creatures in *De generatione animalium* III 11, Aristotle has an intriguing remark about the difference in value of animals which are generated non-sexually. This text is clearly an elaboration on part of the text in *De generatione animalium* II 3 which formed our starting-point and where Aristotle mentions a 'residue of a different kind' also possessing a 'principle of life'.¹⁰⁵ An essential element in their generation also is the *pneuma* which is present in water and always contains vital heat (*psychikè thermotès*). So this vital heat is not some part of the air but exists in water.¹⁰⁶ The text goes on:

Therefore (something) forms quickly when this is enclosed. This being enclosed, there is formed a kind of frothy bubble when the somatic liquids become hot. The differences in higher or lower value of the kind formed depend on¹⁰⁷ the (manner of) enclosure of the soul-

739a18-20.

¹⁰⁴ *Gener. anim.* II 1, 732a15-20: τούτων τὰ μὲν, ὥσπερ ἐλέχθη, προίεται σπέρμα, τὰ δ' οὐ προίεται ἐν τῷ συνδυασμῷ. τούτου δ' αἴτιον ὅτι τὰ τιμιώτερα καὶ αὐταρκέστερα τὴν φύσιν ἐστίν, ὥστε μεγέθους μετελιφέναι. τοῦτο δ' οὐκ ἄνευ θερμότητος ψυχικῆς· ἀνάγκη γὰρ τὸ μείζον ὑπὸ πλείονος κινεῖσθαι δυνάμεως, τὸ δὲ θερμὸν κινητικόν.

¹⁰⁵ *Gener. anim.* II 3, 737a4-5. D.M. Balme (1972) 64 did not recognize the link with III 11. He translates on p. 64: 'not only the heat conveyed through the seed, but also if there is some other residue of their nature'. Thus also A. Preus (1970) 35.

¹⁰⁶ Aristotle advances the same idea in his discussion of Thales' theory that the *archè* of all things is water: *Metaph.* A 3, 983b22: λαβὼν ἴσως τὴν ὑπόληψιν ταύτην ἐκ τοῦ πάντων ὄραν τὴν τροφὴν ὑγρὰν οὔσαν καὶ αὐτὸ τὸ θερμὸν ἐκ τούτου γιγνόμενον καὶ τούτῳ ζῶν ... καὶ διὰ τὸ πάντων τὰ σπέρματα τὴν φύσιν ὑγρὰν ἔχειν.

¹⁰⁷ For the connection of αἱ διαφοραὶ with the singular ἐστὶν cf. A. Gotthelf, 'Teleology and spontaneous generation in Aristotle: a discussion', *Apeiron* 22 (1989) 181-193, p. 186 with n. 11.

principle, and the cause which determines this are the locations and the *sōma* which encloses it. The sea contains a great deal of earthy material. Hence the testacea are formed from this kind of formation, because the earthy substance hardens round them and solidifies just as bones and horns do (for these cannot be melted by fire), while the body that is the vehicle of the life is enclosed within it.¹⁰⁸

The subject in the passage 762a18-32 is the generation of living creatures. But we can only understand it rightly if we consider that, according to Aristotle, spontaneous generation is based on the same system as sexual procreation¹⁰⁹. There is one difference, however: the components are combined with each other in a different way. In 762a18-32 Aristotle treats of the soul-principle and the instrumental body by which the soul is the principle of motion for the new living creature. In 762b35 he complements his argument on spontaneous generation by discussing the 'material principle',¹¹⁰ which is analogous to menstrual blood in sexual procreation.¹¹¹

¹⁰⁸ *Gener. anim.* III 11, 762a21-32: διὸ συνίσταται ταχέως ὁπότεν ἐμπεριληφθῇ. ἐμπεριλαμβάνεται δὲ καὶ γίγνεται θερμαινομένων τῶν σωματικῶν ὑγρῶν οἷον ἀφρώδης πομφόλυξ. αἱ μὲν οὖν διαφοραὶ τοῦ τιμιώτερον εἶναι τὸ γένος καὶ ἀτιμότερον τὸ συνιστάμενον ἐν τῇ περιλήψει τῆς ἀρχῆς τῆς ψυχικῆς ἐστίν. τούτου δὲ καὶ οἱ τόποι αἴτιοι καὶ τὸ σῶμα τὸ περιλαμβανόμενον. ἐν δὲ τῇ θαλάττῃ πολὺ τὸ γεῶδες ἐνεστίν· διόπερ ἐκ τῆς τοιαύτης συστάσεως ἡ τῶν ὀστρακοδέρμων γίγνεται φύσις, κύκλω μὲν τοῦ γεώδους σκληρυνόμενου καὶ πηγνυμένου τὴν αὐτὴν πῆξιν τοῖς ὀστοῖς καὶ τοῖς κέρασι (πυρὶ γὰρ ἄτηκτα ταῦτ' ἐστίν), ἐντὸς δὲ περιλαμβανομένου τοῦ τὴν ζωὴν ἔχοντος σώματος (text Drossaart Lulofs). P. Louis (1961) 131 translates here: 'Quant au degré de noblesse qui caractérise le genre en gestation, il dépend de l'enveloppe qui enferme le principe psychique. Et dans ce domaine, un rôle est joué à la fois par le milieu et par la substance qui est enclose. Or la mer est riche en éléments terreux. Aussi est-ce d'une combinaison où entrent ces éléments que se forme la nature des testacés: l'élément terreux durcit tout autour et devient aussi solide que les os ou les cornes (le feu ne les fait pas fondre), tandis qu'à l'intérieur est enfermé le corps doué de vie'. D. Lanza (1971) 966 n. 55, comments: 'La spiegazione contenuta in questo passo resta assai problematica, e Aristotele la suggerisce come semplice ipotesi'. Cf. also D.M. Balme, 'The development of biology in Aristotle and Theophrastus: theory of spontaneous generation', *Phronesis* 7 (1962) 91-104, especially 98-99; J.G. Lennox, 'Teleology, change and Aristotle's theory of spontaneous generation', *J. Hist. Philos.* 20 (1982) 219-238 and A. Gotthelf (1989).

¹⁰⁹ Cf. A. Gotthelf (1989) 190: 'In fact, I suspect that it was precisely the conviction that even spontaneous generations were not due to element-potentials alone but involved the same sort of special heat as is involved in sexual generation that motivated the mature theory of spontaneous generation'.

¹¹⁰ Cf. *Gener. anim.* III 11, 762a35: Ζητήσῃε δ' ἂν τις βουλόμενος ὀρθῶς ζητεῖν τί τὸ κατὰ τὴν ὑλικὴν ἀρχὴν συνιστάμενόν ἐστίν ἐν τοῖς τοιοῦτοις.

¹¹¹ See esp. *Gener. anim.* III 11, 762b16: τὸ δ' ἐναπολαμβανόμενον ἢ ἀποκρινόμενον ἐν τῷ πνεύματι τῆς ψυχικῆς ἀρχῆς κύημα ποιεῖ καὶ κίνησιν ἐντίθησιν.

If this claim is correct, Aristotle in III 11, 762a21-32 is as yet only discussing the formation of the life-principle, i.e. the soul-principle and the (instrumental) body with which the soul is inextricably connected. For in the process of spontaneous generation, too, the incorporeal soul is the entelechy of a *sôma organikon* in the sense of 'instrumental body'. Aristotle speaks here about a process of 'being enclosed'. Life is spontaneously generated when 'soul', or 'psychic heat', is enclosed.¹¹² The soul or psychic heat is enclosed and, when somatic liquids are heated, there forms a kind of frothy bubble.¹¹³ Here, too, only 'soul' or 'psychic heat' can be the subject of 'being enclosed'. The 'heating up of the somatic liquids' is a result of the enclosure of psychic heat.¹¹⁴

Aristotle goes on to remark that the differences in value of what results from this spontaneous generation depend on 'the enclosure of the soul-principle'.¹¹⁵ So far, then, we have only heard about an 'enclosure' of the 'soul' or 'psychic heat' or a 'soul-principle'. But Aristotle continues: 'The cause of this are the locations and τὸ σῶμα τὸ περιλαμβανόμενον'.¹¹⁶ Crucial here is what Aristotle means by τὸ σῶμα τὸ περιλαμβανόμενον. Modern translators render here: 'the body that is enclosed'.¹¹⁷ But up till now there has been no question

¹¹² *Gener. anim.* III 11, 762a21-22: διὸ συνίσταται ταχέως ὅποταν ἐμπεριληφθῇ. Only ψυχὴ (a21) or θερμότης ψυχικὴ (a20) can be the subject of this ἐμπεριληφθῇ.

¹¹³ *Gener. anim.* III 11, 762a22: ἐμπεριλαμβάνεται δὲ καὶ γίγνεται θερμαινομένων τῶν σωματικῶν ὑγρῶν ὡς ἀφρώδης πομφόλυξ. The mention of a 'frothy substance' shows again that we are dealing with an analogue of (frothy) semen in sexual procreation. Cf. *Gener. anim.* II 3, 736b36; 2, 736a18-20. It is striking that Plu. *Sera num.* 563F-564A speaks twice of 'frothy bubbles' (πομφόλυγα) resulting from the ascent of souls of the dying.

¹¹⁴ One might think that the 'heating up of the somatic liquids' is due to the environment. In that case the heating up could be seen as the necessary condition for the enclosure of the soul-principle. But the position of the words θερμαινομένων τῶν σωματικῶν ὑγρῶν suggests that they refer to the effect of the enclosure of the psychic heat. Aristotle was aware that biotic substances generate warmth of their own (e.g. in putrefaction).

¹¹⁵ *Gener. anim.* III 11, 762a24-26: αἱ μὲν οὖν διαφοραὶ ... ἐν τῇ περιλήψει τῆς ἀρχῆς τῆς ψυχικῆς ἐστίν.

¹¹⁶ *Gener. anim.* III 11, 762a26: τούτου δὲ καὶ οἱ τόποι αἵτιοι καὶ τὸ σῶμα τὸ περιλαμβανόμενον. 'Of this' must refer back to '(the differences in) the enclosure of the soul-principle'. The 'locations' are water, earth, air, etc. just as in III 11, 761b12 and *Resp.* 13, 477a27-31 or warm and cold places, as in *Long.* 5, 466b 16-18.

¹¹⁷ Thus A.L. Peck 357: 'the physical substance which is enclosed'; P. Louis 131: 'la substance qui est enclose'; D. Lanza 967: 'il corpo circoscritto'; A. Platt I 1180: 'the material which is included'. But on p. 584 A.L. Peck says: 'the differences between the various creatures which are produced in this way are due to the stuff which makes up the envelope around the Soul-ἀρχή'. C. Lefèvre (1972) 265: has:

of a 'body that is enclosed'. It is also clear that something can only be enclosed by something that *encloses*.¹¹⁸

In my view, Aristotle means: the quality of life resulting from spontaneous generation depends on the location where the process takes place *and* on 'the body *which encloses the soul-principle*'.¹¹⁹ The failure of spontaneous generation to produce living creatures with five senses or rational capacity is explained here by the fact that 'the body which is the vehicle of the soul-principle' is seawater, which contains many earthy components. These earthy components are clearly a polluting factor, which is removed as a useless and unassimilable substance and which forms a kind of shell for 'the body which possesses life'.¹²⁰ Though the shell of a testacean encloses the entire living creature, Aristotle does not speak about 'the living creature' (ζῷον) here but about 'the body that possesses life'. We should compare this with the passage in *De anima* II 1 where Aristotle says that 'of natural

'le matériau qui l'investit'. A. Gotthelf (1989) 186 translates: 'the enclosed body' (but on p. 187 he mentions 'the differences in the enclosing material').

¹¹⁸ At *Gener. anim.* II 3, 736b36 it is said that the *pneuma* is 'enclosed by' the semen. This implies that the semen-fluid is the body that encloses the *pneuma*. In the same way vital heat (i.e. the analogon of the astral body) is enclosed by *pneuma*. In that case the *pneuma* is the body that 'encloses'. In III 11, 762b16 the discussion is about 'the soul-principle' that becomes enclosed by a fluid containing *pneuma*. So that fluid is the body that 'encloses' and that henceforth becomes the 'instrumental body' of that soul-principle.

¹¹⁹ The words between quotation marks are to be read such that the body encloses the soul-principle. P. Moraux (1955) 276 has: 'c'est la nature du lieu et celle du corps où était inclus le principe psychique que déterminent la place plus ou moins élevée de l'animal dans la *scala naturae*'. So τὸ σῶμα τὸ περιλαμβανόμενον corresponds here with τὸ σπέρμα and τὸ ἀφρώδες in *Gener. anim.* II 3, 736b36. Aristotle speaks there about: τὸ ἐμπεριλαμβανόμενον ἐν τῷ σπέρματι καὶ ἐν τῷ ἀφρώδει πνεῦμα καὶ ἡ ἐν τῷ πνεύματι φύσις. So there semen and the foam-like stuff are the entities which enclose, and *pneuma* and the substance in *pneuma* that which is enclosed. Cf. A.L. Peck (1942) 583-584. A. Preus (1970) 37 n. 56 remarks: 'τὸ σῶμα τὸ περιλαμβανόμενον may mean either "the enclosed body" (i.e. the *pneuma*), or "the enclosing body" (i.e. the mixture of earth and so on around the *pneuma*). The latter interpretation would be supported by the words which follow: "in the sea there is plenty of earthy stuff; therefore the nature of the testacea is generated from such a construction."'. C. Lefèvre (1972) 266 n. 45, comments: 'Pour notre part, nous voyons ici un moyen (bien que nous n'en ayons pas repéré d'autre exemple), non un passif: il est au moins clair que le matériau est considéré dans tout le contexte comme enveloppant (même en a32, où le participe est passif)'. For this view, Lefèvre refers to P. Moraux (1955) 276, quoted above. Liddle-Scott-Jones, *A Greek-English Lexicon s.v.* do not distinguish a medium form.

¹²⁰ *Gener. anim.* III 11, 762a32: τοῦ τὴν ζωὴν ἔχοντος σώματος. A. Gotthelf (1989) 187 remarks: '(Aristotle does not) cite as cause of these differences anything about the vital heat'. However, Aristotle must have intended to suggest that in some cases the vital heat is lesser in quantity and in purity on account of the 'enclosing body'.

bodies some possess life and others do not'.¹²¹ For Aristotle 'natural bodies' are always the elementary bodies!

In *De generatione animalium* II 3, 736b29-737a1, which formed our starting point, Aristotle discusses the vital heat which fertilizes the semen of living creatures that procreate sexually. He speaks there about 'the *pneuma* that is enclosed in the semen and the foam-like'. This semen in itself is the vehicle of soul and potential life, quite apart from the material component (of the new specimen of living creature) which is contributed by the female. The semen is a 'body which is a vehicle of life', just as spontaneous generation produces a 'body that is a vehicle of life', which then produces the visible body of the new living creature.

But as vehicle of a 'vital principle'¹²² human or animal semen, which is a product of the most perfect metabolical process, is much more suitable than seawater, and therefore the living creature which is ultimately generated by human procreation has a life that is much higher in value.

The foregoing also offers a key to the explanation of a passage which many exegetes have deemed totally misplaced and un-Aristotelian. It is the text in *De generatione animalium* III 11 which treats of, among other things, creatures on the moon. This passage also broaches the theme of a difference in quality of life. The text in question reads:

Plants may be assigned to the earth, aquatic animals to water, land animals to air, and more and less and nearer and further makes a great and astonishing difference¹²³. But the fourth kind should not be sought in these locations, though there ought to be a kind corresponding to the order of fire, since fire is reckoned as the fourth of the bodies. But fire does not appear to have a separate manifestation, rather being present in some other of the bodies, for either air or smoke or earth appears to be fiery. Such a kind should be sought on the moon, for the moon appears to be connected with the fourth distance.¹²⁴

¹²¹ *Anim.* II 1, 412a13: τῶν δὲ φυσικῶν τὰ μὲν ἔχει ζωὴν, τὰ δ' οὐκ ἔχει.

¹²² Cf. ζωτικὴ ἀρχή in *Gener. anim.* II 3, 737a5.

¹²³ W. Lameere (1949) 288, wrongly translates here: 'sont à l'origine de différenciations aussi nombreuses qu'étonnantes'.

¹²⁴ *Gener. anim.* III 11, 761b13-22: τὰ μὲν γὰρ φυτὰ θεῖται τις ἂν γῆς, ὕδατος δὲ τὰ ἔνυδρα, τὰ δὲ περὶ ἀέρος· τὸ δὲ μᾶλλον καὶ ἥττον καὶ ἐγγύτερον καὶ πορρώτερον πολλὴν ποιεῖ καὶ θαυμαστὴν διαφορὰν. τὸ δὲ τέταρτον γένος οὐκ ἐπὶ τούτων τῶν τόπων δεῖ ζητεῖν· καίτοι βούλεται γέ τι κατὰ τὴν τοῦ πυρὸς εἶναι τάξιν· τοῦτο γὰρ τέταρτον ἀριθμεῖται τῶν σωμάτων. ἀλλὰ τὸ μὲν πῦρ αἰεὶ φαίνεται τὴν μορφήν οὐκ ἰδίαν ἔχον, ἀλλ' ἐν ἐτέρῳ τῶν σώματων· ἢ γὰρ ἀήρ ἢ καπνὸς ἢ γῆ φαίνεται τὸ

Aristotle here seems to use the relationship with (the natural bodies) earth, water, air and fire as the basis for differences in the quality of life. But he does so in a very strange manner, for nobody would claim that the visible bodies of fish consist mainly of water or those of land animals of air¹²⁵. Elsewhere Aristotle repeatedly affirms that the bodies of all living entities consist of the four elements.¹²⁶ We should therefore read this text against the background of our primary text *De generatione animalium* II 3, which says that a difference in quality of life corresponds to the degree in which the faculty of every soul has something of the astral element.¹²⁷

We can only understand Aristotle's intention in the text of *De generatione animalium* III 11—and appreciate its value—if we see that the body which receives the soul and functions as its instrumental body differs in quality in proportion to the dominance of each sublunary element in it. Plants have the lowest level of life because the instrumental body of their life-principle is primarily earthy. Hence plants have no form of perception. Fish (but also the testacea which are formed in a process of spontaneous generation, as we saw above) have an instrumental body of their soul-principle which is above all watery. Many land animals have blood and respiration on the basis of *pneuma* in the proper sense. We can assume of the living creatures on the moon that the instrumental body of their soul-principle is fiery, so that their quality of life is even higher than that of sublunary mortals, though they too are mortal, as Michael Ephesius states in his commentary on this passage.

πεπυρωμένον. ἀλλὰ δεῖ τὸ τοιοῦτον γένος ζητεῖν ἐπὶ τῆς σελήνης· αὕτη γὰρ φαίνεται κοινωνοῦσα τῆς τετάρτης ἀποστάσεως. On this text, cf. W. Lameere (1949) 288-293. Lameere notes that modern experts are baffled by this text. J. Barthélemy-St. Hilaire (1887) suspected that the passage is an interpolation. A. Platt (1910) was unable to make sense of the words 'more and less and nearer and further' and warned against accepting too readily that Aristotle truly believed in lunar creatures. A.L. Peck (1942) 351 n. c, remarked: 'The rest of the paragraph from this point is obscure, and other passages do not help much in its elucidation'. Lameere himself (297-298; 313) defended its authenticity and sees it as a reflection of the theories of Aristotle's early period. However, *Gener. anim.* as a whole dates, according to Lameere, from Aristotle's final period. D. Lanza (1971) 965 holds the Aristotelian character of the text to be 'marginal'. A. Coles (1997) 304 notices 'a whimsical association of fire with moon-dwellers'.

¹²⁵ Cf. P. Merlan, in A.H. Armstrong (ed.), *C.H.L.G.E.M.Ph* (Cambridge 1967) 34 n. 1. Merlan sees in this passage 'an excellent example of what could be called "natural" demonology'.

¹²⁶ *Gener. anim.* I 1, 715a9-11; *Part. anim.* II 1, 646a13-15.

¹²⁷ The two texts were already linked by W. Lameere (1949) 293-294.

In this way it can be argued that all levels of life contain something of the astral element, but with differences depending on the distance to the principle that brings about life.¹²⁸

If the explanation of the preceding text is correct, we must conclude that for Aristotle *all five* 'natural bodies' (in the sense of elementary bodies) function in a specific relationship with the soul, such that in the case of mortal living beings the quality of the sublunary elementary body that functions as the soul's instrumental body determines the soul's relationship with the astral body¹²⁹.

In this connection we should take a look at *De anima* II 4, where, in the text accepted by most editors, it is said that 'all natural bodies are instruments of the soul'. This is true of 'both those of living creatures and those of plants, insofar as they exist for the sake of the soul'.¹³⁰ Because Aristotle defined the soul in *De anima* II 1 as 'the first entelechy of a natural body which is *organikon*',¹³¹ he must be referring here to the (four) natural bodies which serve the soul as instruments. Like *De generatione animalium* III 11, *De anima* II 4 observes that every living creature has a soul-principle which is indissolubly linked with an (elementary) natural body, and that these natural bodies are instruments of the soul and exist for the sake of the soul. The 'instrumental

¹²⁸ Similarly *De mundo* 6, 397b16-398a1 mentions the power of God which pervades the cosmos, but diminishes in power and effect as the distance from the source of power is greater. See in particular 397b33: κατὰ τὸ ἔγγιον τε καὶ πορρωτέρω θεοῦ εἶναι μᾶλλον τε καὶ ἥττον ὠφελείας μεταλαμβάνοντα. There earthly reality is also called: ἐν ἀποστάσει πλείστη τῆς ἐκ θεοῦ ὄντα ὠφελείας (397b30). This very precise parallel between the text of *Gener. anim.* III 11, 761b13-23 and *De mundo* 6 makes it most unlikely that the text of *Gener. anim.* is a later interpolation. It also shows that A. Platt and A.L. Peck failed to understand the text of *Gener. anim.* because they misconceived Aristotle's psychology. Finally, this parallel is a new testimony to the thoroughly Aristotelian character of *De mundo*.

¹²⁹ This thesis could be illustrated by *Iuv.* 19/*Resp.* 13, 477a25-31. However, that would require a separate exposition. It may suffice to remark that τὴν δ' ἐξ ἀνάγκης καὶ τῆς κινήσεως αἰτίαν in 477a25 cannot refer to the visible bodies of living beings, but should refer to the 'instrumental body' of the soul principle of those living beings. Cf. *Gener. anim.* I 22, 730b11-23.

¹³⁰ *Anim.* II 4, 415b17: πάντα γὰρ τὰ φυσικὰ σώματα τῆς ψυχῆς ὄργανα, καὶ καθάπερ τὰ τῶν ζώων, οὕτω καὶ τὰ τῶν φυτῶν, ὡς ἐνεκα τῆς ψυχῆς ὄντα. W. Kullmann, *Die Teleologie in der aristotelischen Biologie* (Heidelberg 1979) 28 wrongly translates φυσικὰ σώματα as 'die naturhafte Körperwerkzeuge'. H. Busche (2001) 27 takes *Anim.* II 4, 415b8-24 as 'ein Einschiesel mit allgemein resümierender Funktion', while referring to R.D. Hicks (1907) 341. It should be noted, however, that ms. E here reads: πᾶν τὸ σῶμα ὄργανον τῇ ψυχῇ· ὥσπερ δὲ τὸ τῶν ζώων, καὶ τὸ τῶν φυτῶν.

¹³¹ *Anim.* II 1, 412a27-28; 412b4-6.

body' of the soul is the cause of motion on behalf of the soul-principle that is the form-principle and the goal of the process of becoming, in the same way as the hands and the instruments used by the artisan are the cause of motion by which he produces his product. So the 'natural bodies' in question here cannot be identical with the visible bodies of plants or animals¹³² but must be the special soul-bodies, whose quality determines the quality of the soul's relationship with the astral element, i.e. the quality of life. The question whether life manifests itself as a plant, animal, or human being depends on the quality of 'the natural body that is the instrument of the soul' and that 'has something of the astral body', viz. vital heat. Empedocles had already given a hint in that direction.¹³³

Consequences

Following this line of interpretation, we can even better understand why Aristotle claims in *De anima* I 3 that a soul uses its body as a craft its tools.¹³⁴ It also becomes clear why he speaks there about 'the body that receives the soul', in the sense of the 'natural body which is the vehicle of the soul', but which must be sharply distinguished from the concrete, visible body produced by the soul via the instrumental body. In this context, too, Aristotle talks about a *koinônia* which must exist between the soul and the body which receives the soul, because only this *koinônia* enables interaction between the soul and the 'receiving body'.¹³⁵ Like *De generatione animalium* II 3¹³⁶, *De anima* I 3 postulates a very special relationship between the (incorporeal) soul and a (special) body which is to receive the soul.¹³⁷

This shows once again that *sôma organikon*¹³⁸ in the definition of the soul in *De anima* II 1 means 'the body which is the soul's instrument' for producing the visible body and for sense-perception

¹³² As M.C. Nussbaum (1978) 149 accepted.

¹³³ Vgl. Emped. 31 B 115 D.K.

¹³⁴ *Anim.* I 3, 407b25-26: δεῖ γὰρ τὴν μὲν τέχνην χρῆσθαι τοῖς ὀργάνοις, τὴν δὲ ψυχὴν τῷ σώματι. See ch. 4 above.

¹³⁵ *Anim.* I 3, 407b15-19.

¹³⁶ For *Gener. anim.* II 3 see also A. Gotthelf, 'Teleology and spontaneous generation' 184 n. 6: 'Aristotle ascribes differences in value among souls, and thus, by implication, among animals, to differences in pneumatic heat'.

¹³⁷ *Anim.* I 3, 407b20: τοῦ δεξιόμενου σώματος.

¹³⁸ *Anim.* II 1, 412a27-28; b5-6.

and locomotive activity.¹³⁹ It also ties in with *De motu animalium* 10, where Aristotle calls *pneuma* the ‘instrument’ of the soul-principle for bringing about movement of arms and legs.¹⁴⁰

That leads us to the conclusion that Aristotle’s doctrine of the connate *pneuma* formed a part of a coherent and consistent theory that for centuries was insufficiently understood as the result of a historically wrong interpretation of his psychology¹⁴¹.

Additional remarks

1. *Seed and fruit*

In *De generatione animalium* I 4 Aristotle notes that, like plants, many animals have no higher function than their procreative function, i.e. the production of sperm, like the production of fruit in plants.¹⁴² A correct understanding of this remark is important, because it is vital to the explanation of a passage in *De anima* where Aristotle states that ‘not something which has lost its soul is potentially capable of living, but something which possesses soul. Such are sperm and fruits’.¹⁴³ We must consider here that a fruit of a plant or tree is the production of ‘fertilization’, that is, it results from the combined contributions of the male and female of the species.

If ‘sperm’ in *De generatione animalium* I 4 and in *De anima* II 1 is on a par with ‘fruits’, ‘sperm’, too, was interpreted as resulting from the combined contributions of the male and female. In that case ‘sperm’ does not stand for the contribution of the male alone, but for what we would nowadays call ‘the fertilized egg-cell’. It therefore makes sense that *De generatione animalium* I 18, 724b12 clearly distinguishes sperm from the seed produced by the male, which is referred to there as *gonè*.¹⁴⁴ The fact that in the largest part of *De generatione*

¹³⁹ A.L. Peck (1942) 582 already concluded: ‘the *pneuma* or more precisely “the substance in the *pneuma*” with which ψυχή is ... associated is the physical vehicle *par excellence* of ψυχή; anyway, it is the first physical substance to give expression to the movements of ψυχή; it is its immediate instrument’.

¹⁴⁰ *Motu anim.* 10, 703a20.

¹⁴¹ Therefore I reject the statement made by G. Freudenthal (1995) 112: ‘Now scholars are in general agreement that Aristotle never completely worked out the theory of connate *pneuma*’.

¹⁴² *Gener. anim.* I 4, 717a21. Vgl. I 18, 724b19-21.

¹⁴³ *Anim.* II 1, 412b25-27.

¹⁴⁴ *Gener. anim.* I 18, 724b12.

animalium Aristotle also uses the more current term 'sperm' for the male contribution alone¹⁴⁵ is not a sound reason for regarding the passage I 18, 724b12-22 as a latter addition, as A.L. Peck and D.M. Balme do.¹⁴⁶ In this passage, too, Aristotle consistently adheres to his theory that the male contribution is, in the primary sense, the principle of procreation.¹⁴⁷

2. *Growth processes in eggs and embryos*

Aristotle regards the soul as the principle of growth in plants and living creatures. No doubt he also explained the growth of vital principles in fertilized eggs and embryos¹⁴⁸ as following from the activity of an *anima nutritiva*.

This suggests Aristotle's recognition that the soul as a guiding principle is already operative in the completely undifferentiated stages of animals. For Aristotle, the crucial question is what agent carries out the process of forming and differentiating such a formless principle into a complete, differentiated living creature equipped with organs under the guidance of the soul as entelechy. A soul as *eidos* and entelechy, which does not itself possess movement, will not be able to achieve this without an 'instrument' or 'instrumental body'. Hence Aristotle, in his description of this process further on in *De generatione animalium*, always assigns an important role to *pneuma* or vital heat. Indeed, he can refer to it as 'an *instrument* serving many uses'.¹⁴⁹

3. *How are living creatures formed from creatures of a different species?*

In *De generatione animalium* we find another, very special mode of generation for living creatures. According to Aristotle, flies and fleas are not formed from flies and fleas but from grubs. These are living creatures of a 'different kind'.¹⁵⁰ For him this is a compelling reason

¹⁴⁵ E.g. in *Gener. anim.* I 21, 729b2.

¹⁴⁶ Cf. e.g. *Gener. anim.* I 6, 718a3, which also has *gonè* for male sperm.

¹⁴⁷ Cf. *Gener. anim.* I 18, 724b13: τὸ πρῶτον ἔχον ἀρχὴν γενέσεως.

¹⁴⁸ *Gener. anim.* I 8, 718b7-8; b15; 13, 720a2; 12, 719b26.

¹⁴⁹ Likewise in the concluding lines of *Gener. anim.* (V 8, 789b7-12): ἐπεὶ καὶ τὸ τῷ πνεύματι ἐργάζεσθαι τὰ πολλὰ εἰκὸς ὡς ὀργάνῳ· οἷον γὰρ ἔνια πολύχρηστά ἐστι τῶν περὶ τὰς τέχνας ... οὕτως καὶ τὸ πνεῦμα ἐν τοῖς φύσει συνεστῶσιν. Cf. F. Solmsen, 'Nature as craftsman in Greek thought', *J.H.I.* 24 (1963) 489. As in *Motu anim.* 10, therefore, *pneuma* is here said to be the *organon* of the soul!

¹⁵⁰ *Gener. anim.* I 18, 723b3.

to reject the theory that sperm is a kind of extract of the entirely visible body of the parent. Furthermore, it is a decisive argument against the standard interpretation of Aristotle's psychology. It must mean, after all, that if the soul is the entelechy of the visible body equipped with organs, the entelechy of a fly cannot possibly transfer the entelechy of a grub, and vice versa.

However, it may well be that, in Aristotle's view, one soul as entelechy, by means of its 'instrumental body', first produces the phase of the grub, and then causes it to evolve into a fly or flea. This also seems to be suggested by the curious phrase that there 'is something in living creatures which produces later'.¹⁵¹

¹⁵¹ *Gener. anim.* I 18, 722b1: εἴ τι δημιουργεῖ ὕστερον ... Cf. 723b28.

CHAPTER NINE

‘FIRE ABOVE’: THE RELATION OF SOUL TO THE BODY THAT RECEIVES SOUL, IN ARISTOTLE’S *DE LONGITUDINE ET BREVITATE VITAE* 2-3

The modern debate over the Parva naturalia

The collection of writings called the *Parva naturalia* which forms part of the Aristotelian Corpus often presents itself as following on from *De anima*.¹ According to the opening lines of *De sensu*, Aristotle in a previous work spoke about ‘the soul by itself’ and about the powers of each of its parts. Now the analytical gaze must be trained on living creatures and on all entities possessing life.² Again, the information that Aristotle spoke about the soul by itself is remarkable.³ For in *De*

¹ Cf. I. Düring, *Aristoteles. Darstellung und Interpretation seines Denkens* (Heidelberg 1966) 561-562. But Düring believes that the views formulated in *Anim.* cannot possibly be older than those of the *Parva naturalia*. J. Tricot, *Aristote, Parva naturalia suivis du traité pseudo-aristotélicien De spiritu* (Paris 1951) vi did regard these treatises as a sequel to the discussion of the *De anima*. On the *Parva naturalia* see *Aristoteles, Kleine naturwissenschaftliche Schriften (Parva naturalia)*, übers. von E. Rolfes (Leipzig 1924); *The works of Aristotle*, transl. under the editorship of W.D. Ross, vol. III: *Meteorologica* (E.W. Webster); *De mundo* (E.S. Forster); *De anima* (J.A. Smith); *Parva naturalia* (J.I. Beare; G.R.T. Ross); *De spiritu* (J.F. Dobson) (Oxford 1931; repr. 1963); *Aristotle, On the soul, Parva naturalia, On breath*, transl. by W.S. Hett (London 1936; repr. 1975); *Aristoteles. Kleine Schriften zur Seelenkunde*, übers. von P. Gohlke (Paderborn 1953); *Aristote, Petits traités d'histoire naturelle*, texte établi et traduit par R. Mugnier (Paris 1953); *Aristotle, Parva naturalia*, a revised text with introd. and comm. by Sir David Ross (Oxford 1955); *Aristotelis Parva naturalia*, Graece et Latine, ed., versione auxit, notis illustravit P. Siwek s.j. (Romae 1963); *Aristotele, Opere biologiche* a cura di Diego Lanza e M. Vegetti (Torino 1971); *Aristoteles, Kleine naturwissenschaftliche Schriften (Parva naturalia)*, übers. und herausg. von E. Dönt (Stuttgart 1997).

² *Sens.* 1, 436a1: ‘Ἐπεὶ δὲ περὶ ψυχῆς καθ’ αὐτὴν διώρισται πρότερον καὶ περὶ τῶν δυνάμεων ἐκάστης κατὰ μῦθον αὐτῆς, ἐχόμενόν ἐστι ποιήσασθαι τὴν ἐπίσκεψιν περὶ ζῶων καὶ τῶν ζῴων ἔχόντων ἀπάντων.

³ W.S. Hett and W.D. Ross do not treat this passage separately. P. Siwek 66 notes: ‘Res consideratur in se ipsa (καθ’ αὐτήν), si ea sola in illa attenduntur, sine quibus nec esse nec concipi potest’. Alexander of Aphrodisias, *In De sensu* (ed. P. Wendland 1901) p. 3, 8-16 senses a problem here also for his own interpretation of the relation to *De anima*. He therefore advances two proposals for an explanation, both of which cannot gloss over the fact that Aristotle spoke about a *sōma physikon* in his definition of the soul. Indeed, his second suggestion is that Aristotle spoke about the ‘soul by itself’ in *De anima* because he did not also speak there ‘about the body with which the soul is essentially connected’ (3, 15: ἢ “περὶ ψυχῆς καθ’

anima he had argued that the soul is 'the entelechy of a *sôma physikon organikon*'. This opening sentence therefore underlines my position that for Aristotle 'the soul with its instrumental body', as distinct from the visible body of plant, animal, and human being, 'is the soul by itself'. Thus there is room, in subsequent studies of living creatures, to speak about the soul within these complex substances and questions can be raised about the relation of the (somatically characterized) soul with the visible body.

The text of the *Parva naturalia* therefore presents itself as entirely following on from and agreeing with *De anima*. However, the traditional explanation of the two writings observes great differences between them. In the *Parva naturalia* Aristotle constantly assigns a special place in the visible body of a living creature to the heart as the seat of the central organ of perception, of *pneuma*, psychic fire or vital heat, but also of the soul itself. And this is completely at odds with the view of *De anima* in the traditional explanation, according to which the soul forms a substantial unity with the visible body of human beings, animals, or plants. For in this traditional interpretation the entire body is alive as a result of the soul's presence in every part of the body.

Since F. Nuyens scholars have therefore assumed that these works were not written after *De anima* but in Aristotle's middle phase and needed to be distinguished as 'instrumentalist' works from the later *De anima*. And the troublesome references in the *Parva naturalia* to an existing *De anima* had to be explained in a less obvious way⁴ or attributed to a much later redactor⁵. However, I. Block and W.F.R.

ἐαυτήν", ὅτι μὴ καὶ περὶ τοῦ σώματος, σὺν ᾧ τῇ ψυχῇ καὶ τὸ εἶναι). Cf. G.R.T. Ross, *Aristotle, De sensu and De memoria* (Cambridge 1906) 122, who in his objection to Alexander rightly senses that there is a problem: 'Aristotle never does consider soul apart from body'.

⁴ For example, F. Nuyens, *Ontwikkelingsmomenten in de zielkunde van Aristoteles* (Nijmegen/Utrecht 1939) 148-149; French ed. 163-165, interprets the reference in *Iuv.* 1, 467b13: 'Ἐπεὶ δὲ περὶ ψυχῆς ἐν ἑτέροις διώρισται' as a reference to *Part. anim.* Following I. Düring, *Aristotle's De Partibus animalium, Critical and literary commentaries* (Göteborg 1943) 131, H.J. Drossaart Lulofs, *Aristotelis De insomniis et de divinatione per somnum* (Leiden 1947), part I, xiv suggests that some references presuppose an earlier version of *De anima*. Cf. also I. Düring, *Aristoteles* 560.

⁵ Cf. F. Nuyens, (1939) 152-153; Fr. ed. 168-169, who remarks with regard to the reference to *Anim.* in *Resp.* 8, 474b10-13: 'We must ignore the reference here, since in establishing the chronology of Aristotle's work we must, in every respect, privilege the internal information above the references'. Düring, *Aristoteles* 560, postulates: 'Die Sammlung wurde wahrscheinlich von Andronikos redigiert und herausgegeben'.

Hardie⁶ proposed a reverse order. But on this view, too, the frequent references to *De anima* are strange if this work represents a position which later on Aristotle no longer considered entirely satisfactory. C. Lefèvre's interpretation is even more subtle. He regards the traditional hylomorphism (that postulates the substantial unity of soul with the visible body) as fundamentally distinct from instrumentalism (that distinguishes between soul and the visible body as 'user' and 'instrument'), but argues that Aristotle formulated both views at the same time, so that they often occur together in one work. He passes over the fact that this calls into dispute the philosophical quality of such a work and of such an author.

In my view, however, it can be argued that a single view of high philosophical quality was formulated by Aristotle with great consistency both in *De anima* and in the *Parva naturalia*.

De longitudine et brevitae vitae

Now I will try to demonstrate the fruitfulness of this new hypothesis by testing it against *De longitudine et brevitae vitae*, chapters 2-3. In my view, this Aristotelian text has not yet been explained satisfactorily. And the traditional interpretation of Aristotle's psychology seems to have prevented a satisfactory explanation. In the introductory chapter the author says that he has already discussed sleeping and waking⁷, and that he will later speak about life and death⁸, and about disease and health⁹. At present he will examine why some kinds of plants, animals, and human beings are long-lived and others are short-lived¹⁰.

⁶ I. Block (1961) 50-77; W.F.R. Hardie (1964) 53-72.

⁷ *Long.* 1, 464a30-33; cf. *De somno et vigilantia*, in the collection *Parva naturalia* starting from 453b11. It is established there that these two conditions properly belong to the κύριον αἰσθητήριον (2, 455a20-26), which is located in the heart region (456a4). Waking and sleeping as such are therefore neither conditions of the entire visible body, nor of the immaterial soul-principle. They are two conditions of the 'natural body' which has the potential for sensation when it is vitalized by the *anima sensitiva*. The visible body as a whole undergoes these two conditions *per accidens*.

⁸ Cf. *Iuv.* 1, 467b10ff.

⁹ No work on this subject exists. Presumably Aristotle would have treated disease and health as conditions of *to threptikon* (τὸ θρεπτικόν), the natural instrumental body which is vitalized by the nutritive soul-part.

¹⁰ In *Probl.* XX 7, 923b2 the words δι' ἣν μὲν οὖν αἰτίαν τὰ μὲν βραχύβια, τὰ δὲ μακρόβια ἔστιν, ἄλλος ἔστω λόγος seem to express an intention to write a work like *Long.* Cf. E.S. Forster, 'The pseudo-Aristotelian *Problems*: their nature and their

In the scholarly literature F. Nuyens discusses this work very briefly. In his view, the treatise forms the transition to *De anima*.¹¹ The only passage which he quotes is explained as prefiguring the hylo-morphistic psychology of Aristotle's third period.¹²

W.D. Ross¹³ draws attention to Aristotle's claim in chapter 2 that some things like knowledge and ignorance, disease and health can disappear without the disappearance of the substances to which they belong. What about the soul in this regard? Aristotle answers this question 'by saying that the facts show that soul perishes only when the body perishes' and that 'life is ... a condition which a body loses only when the body itself disintegrates' (53). This is a remarkable statement because in Aristotle's time not many Greeks would consider it a fact that the soul perishes when the body perishes. According to Ross, chapter 3 is 'devoted to a very abstract question, the question whether anything (e.g. fire) is indestructible when it is in its own region of the universe and no contrary to it is present there. The question has, on the surface, little bearing on the subject of the book'¹⁴. In his commentary on chapter 3 he says of 465b1-25: 'The argument of this section is very difficult to follow' (287). And between b11-22 and b23-25 according to Ross 'there seems to be no logical connexion'. The latter passage 'is probably a gloss introduced by a scribe who had in mind the similar words in 466b30-31' (289).

An entirely new edition of the Greek text of the *Parva naturalia* with a Latin translation and explanatory notes was prepared in 1963 by P. Siwek. This author accepts the chronology of Aristotle's works introduced by F. Nuyens. In his view, the period of the dialogues was followed by a transitional period in which the soul was seen to be connected with a special organ (the heart). The soul uses the body as its 'instrument'¹⁵. In the last phase (viz. that of *De anima*), however, the soul was no longer located in a special organ but in the entire body¹⁶. Siwek also endorses Nuyens as regards the chronology of the *Parva naturalia* and *De longitudine vitae*.¹⁷ Siwek's exegetical remarks

composition', *Class. Quart.* 22 (1928) 163-165.

¹¹ F. Nuyens (1939) 236; Fr. ed. 255.

¹² F. Nuyens (1939) 147, where *Long.* 2, 465a27-31 is quoted (Fr. ed. 163; 169).

¹³ W.D. Ross (1955) 52-53; 285-289.

¹⁴ W.D. Ross (1955) 53. See also P. Gohlke (²1953) 115.

¹⁵ P. Siwek (1963) xiii: 'anima ... est ligata cum organo determinato (corde). Utitur corpore tamquam suo "instrumento".'

¹⁶ P. Siwek (1963) xiii: 'Anima non collocatur in ullo organo determinato sed in toto corpore'.

¹⁷ P. Siwek (1963) xiii-xiv.

will be mentioned further on where relevant to the argument. But it is interesting to note his comment on chap. 3, 465b1-10: 'This passage poses difficulties to some commentators. In my view, however, it is perfectly clear'.¹⁸

C. Lefèvre says only that *De longitudine et brevitate vitae* contains very difficult, sometimes highly speculative expositions.¹⁹ He mentions that the passage 2, 465a25-31 seems to be related in two ways to the theory of *De anima*: lines a25-26 recall *De anima* III 5, 430a23-24. The immediately following passage, a27-31, which had drawn Nuyens's attention, is regarded as hylomorphic by Lefèvre.²⁰ But Lefèvre also sees interesting parallels with the instrumentalist discussions which can be simultaneously found in Aristotle's work, passages dealing with the vital heat and the contrast between the upper and lower part of the living body.²¹ The new German translation by E. Dönt has nothing new to offer for the explanation of our text.

Translation of Aristotle, De longitudine et brevitate vitae 2-3

2, 465a13. So we must answer the question, what among the things that exist by nature it is that is easily destroyed, and what it is that is not easily destroyed. Since fire and water, and the elementary bodies akin to them, do not possess the same power, they are reciprocal causes of each other's generation and destruction. Hence it is natural to infer that each of the other things proceeding from them and consisting of them should participate in their nature, except for the cases where things are, like a house, a composite unity formed by the synthesis of many things.

465a19. However, in the case of those other things a different account must be given; for in many things their mode of dissolution is something peculiar to themselves, e.g. in knowledge <and ignorance>, health and disease. These pass away even though the things that contain them are not destroyed but continue to exist; for example, take the termination of ignorance, which is recollection or learning, while knowledge passes away through forgetfulness, or error.

But in an accidental sense the destruction of the other things follows the destruction of natural objects; for, when living creatures die, the health or knowledge resident in them is destroyed too.

¹⁸ P. Siwek (1963) 271. But Düring (1966) 569 again calls it 'an sich rätselhaft'.

¹⁹ C. Lefèvre, *Sur l'évolution d'Aristote en psychologie* (Louvain 1972) 154.

²⁰ C. Lefèvre (1972) 154 with n. 20.

²¹ C. Lefèvre (1972) 154 with n. 21. Lefèvre remarks here: 'On notera que l'unité de composition de ce curieux opuscule mérite une sérieuse analyse'. H.J. Drossaart Lulofs (1947) I xl assumes that our version is a revision of a previous one.

465a26. Hence from these considerations we may draw a conclusion about the soul too. For, if the inherence of soul in body is not a matter of nature but like that of scientific knowledge in the soul, there would be still another mode of dissolution pertaining to it besides which occurs when the body is destroyed. But since soul appears not to behave in that way its association with the body must be on a different principle.

3, 465b1. Perhaps one might reasonably raise the question whether there is a place where the corruptible may be incorruptible, for example **the fire above**, where its contrary does not exist. For, attributes belonging to contraries are destroyed accidentally by the destruction of the contraries; for contraries destroy each other; but none of the substances that have contraries is destroyed accidentally, because substance cannot be predicated of any substrate. It would therefore be impossible for anything to be destroyed which has no contrary, or where there is no contrary of it. For what would there be to destroy it, if things can only be destroyed by their contraries, and if such a contrary does not exist, either at all, or at that particular place?

465b10. Perhaps, however, this is in one sense true, in another sense untrue. For everything which possesses matter, must have a contrary in some sense. Qualities such as heat or straightness may be present in the totality of something, but it is impossible that the thing in its totality should be nothing but hot or white or straight; for, if that were so, attributes would have separate existence.

Hence if, in all cases, whenever the active and the passive exist together, the one acts and the other is acted upon, it is impossible that no change should occur.

465b16. Next to that, it will be necessary to produce a residue, and that residue will be a contrary. For all change proceeds from a contrary and the residue is the result of something that was before.

But if it would eliminate all that is actually contrary to it, would it in that case be indestructible? Perhaps not; it will be destroyed by the environment. <Hence accidentally a lesser flame is consumed by a greater one, for the nutriment, to wit the smoke, which the former takes a long period to exhaust, is exhausted rapidly by the greater.>

If that is the case, what we have said may suffice; but if not, we must assume that something of actually opposite character is present and a residue is produced. [Hence accidentally a lesser flame is consumed by a greater one, for the nutriment, to wit the smoke, which the former takes a long period to exhaust, is exhausted rapidly by the greater.]

465b25. Hence all things are at all times in a state of change and are coming into being or passing away. The environment acts on them either favourably or antagonistically and, owing to that, when they are transposed into a different location they become longer or shorter lived than their (original) nature, but nowhere everlasting, so many as have contraries. For their matter directly entails contrariety. So, if the contrariety is (contrariety) of place, the change is locomotion; if of quantity, the change is growth and diminishing; if of affection, a change of state results.

Analysis of the text's problems

The work *De longitudine et brevitate vitae* addresses the question why some living creatures live longer than others. Living creatures possess life owing to the presence of a soul as principle of life. If this principle is always present in them, they have eternal life. When this principle ceases to be present, they perish. Some creatures perish sooner after birth than others. It is therefore relevant to find out what factors play a role in determining the speed of this process.

The following questions arise here. Why does the soul-principle cease to be a vitalizing principle for the visible body? Is this due to the fact that the visible body is no longer serviceable (being worn out?) and that the soul abandons it (while continuing to exist itself) or to the fact that the soul itself changes and perishes and consequently the visible body is no longer preserved either?

However, when addressing the question why some living creatures are longer-lived than others, Aristotle seems to start in a very general way: 'We must answer the question, what among things that exist by nature it is that is easily destroyed, and what it is that is not easily destroyed' (2, 465a13-14). And then he brings to mind that fire, water, and the like are each other's cause of generation and destruction because they do not possess the same *dynamis*.²² This brings him close to the subject-matter of his work *De generatione et corruptione*, in which he talked very generally about questions connected with generation and destruction. His subject now forces him to be more specific about a number of matters treated there.

The first question to arise is why Aristotle starts with discussing fire and water and the other physical bodies that constitute the elements of all natural reality when he wants to discuss living creatures. We should remember here that Aristotle in *De anima* also referred to the natural bodies as the principles of all other bodies²³, and that he postulated an indissoluble bond between the soul as principle of life and a natural body. For that reason he directly continues by saying in

²² This can be connected with *Meteor.* IV 1, 378b12; b22, where Aristotle calls the qualities 'hot' and 'cold' active and the qualities 'dry' and 'moist' passive. For these qualities he also uses the term *dynameis* (378b30; b33; 379a1). Cf. *Part. anim.* II 1, 646a13-18; II 2, 648b9-11 and *Gener. corr.* II 2-3; 8.

²³ *Anim.* II 1, 412a11: οὐσίαι δὲ μάλιστ' εἶναι δοκοῦσι τὰ σώματα, καὶ τούτων τὰ φυσικά· ταῦτα γὰρ τῶν ἄλλων ἀρχαί. In ch. 5 above I noted that these 'natural bodies' must be the elementary bodies, because only these are the principles of all other bodies.

De longitudine 2 that ‘the other things’ are composed of these four elements and so participate in their nature.²⁴ In the first place we can think here of such things as a mountain, a cloud, a puddle, a golden bowl, etc., but houses and the bodies of plants, animals, and human beings are also made up of the four sublunary elements²⁵.

But he immediately adds that he does not want to discuss ‘the cases where things are, like a house, a composite unity formed by the synthesis of many things’.²⁶ It seems at first that Aristotle wants to keep his analysis of destruction in a proper sense and destruction in an accidental sense as simple as possible. But at this stage we can already wonder whether, by giving the examples he gives, Aristotle’s thought move into the direction of the special substances which also consist of natural bodies, namely the soul-substances, which consist of a ‘natural body which is *organikon*’ led by an incorporeal soul-principle. (For parts of the visible body of living beings can be destroyed without any effect for the soul of those living beings.²⁷)

If the words ‘the other things’ in 465a19 and a24 are taken to refer to the same things as in a16 (that is to all entities that are composed of the natural bodies, with the exclusion of the very complex composite entities), Aristotle must mean in 465a19: ‘However, in the case of those other things, a different account must be given’.²⁸ What Aristotle will argue here is that there are matters which have a specific form of generation and destruction which is not identical with the generation or destruction of their material vehicles. But these same

²⁴ *Long.* 2, 465a16: ὥστε καὶ τῶν ἄλλων ἕκαστον ἐκ τούτων ὄντα καὶ συνεστῶτα μετέχειν τῆς τούτων φύσεως εὐλογον.

²⁵ Cf. *Cael.* III 1, 298a29-32; *Gener. anim.* I 1, 715a8-11 and *Part. anim.* II 1, 646a13.

²⁶ *Long.* 2, 465a18: ὅσα μὴ συνθέσει ἐκ πολλῶν ἐστίν, οἷον οἰκία. In *Anim.* I 1, 403b5 Aristotle mentions λίθους καὶ πλίνθους καὶ ξύλα as components of a house. P. Siwek (1963) 270 n. 10, refers to *Phys.* I 7, 190b8 to explain this passage. One might think for a moment that Aristotle wants to separate products of craft from things which are naturally generated. However, the visible bodies of living beings are likewise composed from a great number of (anhomoiomeric and homoiomeric) parts. Probably Aristotle here excludes complex composite entities because in their case it is possible that (all) parts decay and are replaced while the complex entity itself continues to exist. See for an example Hipp. *Haer.* I 19, 5. In *Phys.* I 7, 190b11 Aristotle also says: ὅτι τὸ γινόμενον ἅπαν ἀεὶ σύνθετόν ἐστι, ..., namely of a substrate and a form-principle. See also *Metaph.* A 3, 1070a14. On the σύνθεσις of the components of living creatures, cf. *Gener. anim.* I 18, 722a24-35.

²⁷ The leaves of a tree, teeth of an animal that are being replaced or hair that is cut may serve as examples. Cf. Philo, *Aet.* 143: ἐπεὶ καὶ ἄκρον ἀποκοπεῖς τις δάκτυλον ζῆν οὐ κεκάλυται.

²⁸ *Long.* 2, 465a19: περὶ μὲν οὖν τῶν ἄλλων ἕτερος λόγος A similar turn is found in *Anim.* II 3, 415a11: Περί δὲ τοῦ θεωρητικοῦ νοῦ ἕτερος λόγος, and in *Mem.* 1, 450a7-9: διὰ τίνα μὲν οὖν αἰτίαν ... ἄλλος λόγος.

things are being destroyed when their vehicles cease to exist. As examples Aristotle mentions 'scientific knowledge' and 'ignorance'.

The examples given by Aristotle in 465a19-26 lead him to the sphere of living creatures. And in this way he also prepares for his explicit mention of the soul in 465a26. It is clear that in these examples of 'scientific knowledge' and 'ignorance' and 'health' and 'disease'²⁹ Aristotle distinguishes between these matters themselves and their 'vehicles'.³⁰ In themselves these matters ('scientific knowledge' and 'ignorance' for instance) are opposites and are not present in their 'vehicle' by nature but accidentally. And these matters are said to be destroyed accidentally as a side-effect of the destruction of the natural bodies.³¹

This is immediately followed by: 'For, when living creatures die, the health and knowledge resident in them are destroyed too'.³² One might think now that Aristotle regards the bodies of living creatures as the 'vehicle' of scientific knowledge. But this cannot be the case. Every kind of knowledge is related to the soul, in Aristotle's view. He says this explicitly in the phrase which follows: 'just as scientific knowledge is *in the soul*'.³³

We must therefore reconsider what Aristotle is saying in 465a19-26. 'Scientific knowledge' and 'ignorance' pass away *in the proper sense* through 'forgetfulness and error' and 'recollection and learning' respectively. This can take place even though their 'vehicle' does not die but is preserved, that is to say: even though the soul does not perish. One might now expect Aristotle to continue: 'but if the soul (as the vehicle of scientific knowledge or ignorance) perishes, scientific knowledge or ignorance consequently perishes too. However, he says: 'if living creatures die, their scientific knowledge and their health die too'. He wanted to give an example of the dissolution of 'scientific knowledge' as a side-effect of the dissolution of physical things. In passing we find again that, for Aristotle, 'life' of living creatures is impossible 'without a physical body'.

Apparently, then, Aristotle developed this entire, still obscure train

²⁹ Other examples that Aristotle might have used are 'sleep' and 'waking'; 'pleasure' and 'pain'.

³⁰ Long, 2, 465a22: τῶν δεκτικῶν. An illustrative text is *Somn.* 1, 453b27: αἰεὶ γὰρ τὰ ἐναντία καὶ ἐπὶ τῶν ἄλλων καὶ ἐν τοῖς φυσικοῖς ἐν τῷ αὐτῷ δεκτικῷ φαίνεται γηγόμενα, καὶ τοῦ αὐτοῦ ὄντα πάθη, λέγω δ' οἷον ὑγίεια καὶ νόσος...

³¹ Long, 2, 465a23: κατὰ συμβεβηκὸς δ' ἀκολουθοῦσι τοῖς φυσικοῖς.

³² Long, 2, 465a25-26.

³³ Long, 2, 465a28.

of thought to make something clear *about the soul*. We read in 465a26: 'Hence from these considerations we may draw a conclusion about the soul too. For if the inherence of soul in body is not a matter of nature but like that of knowledge (which is not naturally inherent) in the soul, there would be another mode of dissolution pertaining to it besides which occurs when the body is destroyed'.³⁴ In that case it would have to be determined what the 'contrary' of the soul is and how this contrary could be responsible for the soul's death. Since Aristotle regards the soul as the form-principle of the body, the dissolution of the visible body would have to be explained with reference to the death of the soul. But the final lines of chapter 2 read: 'But since soul appears not to behave in that way its association with the body must be on a different principle'.³⁵

The question arising here is what phenomena, according to Aristotle, show that this is evidently not the case. The remark by W.D. Ross that 'the facts show that the soul perishes only when the body perishes'³⁶ is inadequate. It seems unlikely that Ross has ever seen a soul perish.

After this conclusion to chapter 2, we expect something to be said about how the *koinônia* (of the soul) with the body should be understood. But it seems that chapter 3 starts a discussion about an entirely different problem, even though Aristotle gives the impression of following an entirely reasonable line of thought. For he starts with the words: 'Perhaps one might reasonably raise the question...'.³⁷ And this is followed by the question: 'whether there is a place where the corruptible may be incorruptible, for example **the fire above**, where its contrary does not exist'.³⁸

³⁴ Long, 2, 465a26: διὸ καὶ περὶ ψυχῆς λογίσαιτ' ἂν τις ἐκ τούτων· εἰ γὰρ ἐστι μὴ φύσει ἄλλ' ὥσπερ ἐπιστήμη ἐν ψυχῇ, οὕτω καὶ ψυχὴ ἐν σώματι, εἴη ἂν τις αὐτῆς καὶ ἄλλη φθορὰ παρὰ τὴν φθορὰν ἣν φθείρεται φθειρομένου τοῦ σώματος.

³⁵ Long, 2, 465a30-32: ὥστ' ἐπεὶ οὐ φαίνεται τοιαύτη οὔσα, ἄλλως ἂν ἔχοι πρὸς τὴν τοῦ σώματος κοινωνίαν. W.S. Hett translates here: 'the association of the soul with the body must be on a different principle'; W.D. Ross: 'its partnership with the body must be of another order', explaining: (the soul is) 'an epiphenomenon of the body'. Plot. *Enn.* IV 8 [6] 1, 29 uses a somewhat different expression: τὴν πρὸς τὸ σῶμα κοινωνίαν τῆς ψυχῆς.

³⁶ W.D. Ross (1955) 53. P. Siwek translates inaccurately here: 'sed quia non apparet [eam] hoc modo perire' and notes on p. 271: 'Attamen haec suppositio non est realis. Revera nullum argumentum datur pro ea'. I believe that φαίνεται has a more positive sense.

³⁷ Long, 3, 465b1: 'Ἵσως δ' ἂν τις ἀπορήσειεν εὐλόγως...'. The same formulation is found in *Anim.* I 4, 408a34: εὐλογώτερον δ' ἀπορήσειεν ἂν τις περὶ αὐτῆς...

³⁸ Long, 3, 465b1: ἄρ' ἐστὶν οὐ ἀφθαρτὸν ἔσται τὸ φθαρτὸν, οἷον τὸ πῦρ ἄνω, οὐ μὴ ἔστι τὸ ἐναντίον. E. Rolfes, W.S. Hett, J. Tricot, R. Mugnier, W.D. Ross, P. Siwek,

The example of 'fire above' is remarkable, to say the least. After all, given Aristotle's doctrine (just underlined in 2, 465a14-16) that fire and water (and air and earth) are each other's cause of dissolution, it is strange to find him considering here that 'fire above', though perishable, does not perish. What kind of fire can Aristotle have been thinking of? Meteorological phenomena with a fiery nature, such as comets and meteorites, do not suggest indestructibility.³⁹ We might be inclined to think that 'fire in the higher part' refers to the ether of the stars and planets.⁴⁰ But this would be a very curious and exceptional mode of expression. Moreover, in Aristotle's theory of elements, ether is clearly distinguished from fire⁴¹ and is *structurally* indestructible.

But it is even stranger that this question is raised in order to clarify a problem about the soul's relationship to the body.

A new explanation

But all these puzzles and obscurities could disappear if we consider (i) that the question of 3, 465b1: 'whether there is a place where the corruptible may be incorruptible' is categorically dismissed by Aristotle in 465b11 with the explanation: 'It is impossible that anything which possesses matter should have no contrary in some sense.'⁴² (The elementary body of fire does not 'possess matter'.) (ii) That he immediately adduces 'heat' as an example, which may bring to mind the vital heat discussed in 6, 467a33. (iii) That shortly thereafter he postulates: 'If, whenever the active and the passive exist together, one acts and the other is acted upon, it is impossible that no change

D. Lanza, G.R.T. Ross (*Aristotle, The revised Oxford translation*, 1984) and E. Dönt all translate something like: 'whether there is any place in which the destructible will be indestructible, like fire in the upper regions, where it has no contrary'.

³⁹ Cf. *Meteor.* I 4ff.; *Mu.* 2, 392a33-b13; 4, 395b3-17.

⁴⁰ In *Anim.* II 7, 418b9 and b12 ether is called (τὸ αἰδίον) τὸ ἄνω σῶμα. Cf. *Motu anim.* 4, 699b25, where τὸ πῦρ καὶ τὸ ἄνω σῶμα are distinguished. A paraphrase is offered by I. Düring, *Aristoteles* 569: 'Gibt es eine Stelle, an der das Vergängliche nicht vergeht, nämlich dort, wo es seinen eigenen Ort hat, wie das Feuer oben (in der supralunaren Welt) wohin sein Widerpart nicht kommt?'

⁴¹ Cf. *Cael.* I 3, 270b16-25; III 3, 302b4; *Meteor.* I 3, 339b16; *Gener. anim.* II 3, 736b36-737a7; *Mu.* 2, 392a6-9. However, I.M. Bodnár, *Oxf. Stud. Anc. Philos.* 15 (1997) 92 n. 11 declared: 'Fire, when separated from adverse influences, may enjoy a secondary sort of imperishability, as we can glean from *De Long.* 465b1ff.'

⁴² *Long.* 3, 465b11: ἀδύνατον γὰρ τῷ ὕλιν ἐχόντι μὴ ὑπάρχειν πως τὸ ἐναντίον.

should occur'.⁴³ (iv) That further on he raises the subject of digestion and the production of residues.⁴⁴ (Combustion does produce rest products like ashes but no *περίττωμα*, which is always the result of biotic processes.) This makes it clear that Aristotle is speaking about the relationship of the soul with the body in a living creature (465a 30-32) on the level which all living entities have in common, namely the level of vegetative life. And in fact he had announced his intention to explain something about the differences in longevity in all that lives.

The solution, then, is that throughout chapter 3 Aristotle is speaking about the relationship of the soul (as immaterial principle) with somatic reality and that his question in 3, 465b1-3 refers to the fire inherent in living creatures and active as a necessary factor for all processes of growth and nutrition. Perhaps we should therefore also surmise that 'the fire above' refers to the vital heat of a living being, where, according to Aristotle's own remark in chapter 6, it is separated from 'the cold in the lower part'.⁴⁵

The soul forms a composite substance⁴⁶ with the *sôma physikon organikon* in which the latter is a 'natural substance' and perishable. But the soul, as the form-principle of the *sôma physikon organikon*, is not in itself subject to the laws of natural entities. Aristotle's discussions in *De anima* II 1 thus lead to a meaningful question: what happens to the natural component of this composite unity (of *sôma physikon organikon* plus immaterial soul-principle)? And because Aristotle is speaking about life in the most comprehensive sense, including vegetative life, characterized by metabolism, production of residues, and procreation (which necessarily inhere in mortal living creatures of a higher order too), he focuses his attention on these processes in particular.

It is entirely logical that, at some stage, Aristotle had to discuss the status of this principle of life in relation to being-in-time. After all, a naïve psychological dualism in the style of Plato's *Phaedo* or as held by some Pythagoreans speaks about an immortal soul which temporarily dwells in a material body and which at a certain point leaves this body. But this fails to explain why animals and human beings die 'by nature'. For this cannot be due to the immortal soul. If the soul is an

⁴³ Long. 3, 365b14-16.

⁴⁴ Long. 3, 365b16-19.

⁴⁵ Long. 6, 467a33-34: ἐν δὲ τῷ ἄνω τὸ θερμόν, καὶ τὸ ψυχρὸν ἐν τῷ κάτω.

⁴⁶ Cf. *Anim.* II 1, 412a16.

imperishable principle of motion, it is unclear why at some stage it stops being the principle of motion for the visible body.

The crucial point now is how Aristotle tackled this problem. It is my intention to analyse our text from the hypothesis that Aristotle in the whole of ch. 3 is discussing the problem of the relation of soul to the body that receives soul, that he announced at the end of ch. 2.

In *De anima* II 2-4 Aristotle had explained the growth and development of the visible body of man, animal, and plant with reference to the duality of soul plus instrumental body. It is logical to expect that he somehow connected the decay and loss of functions with this principle of soul plus instrumental body as well. Indeed, in our text he goes so far as to argue that it is even hypothetically impossible that the soul of living creatures in the sublunary sphere is the eternal principle of life for the visible bodies of these living creatures. We should remember here that, in our interpretation, the incorporeal soul-principle forms a substantial unity with a natural body from the sublunary sphere. This natural body can be expected to follow the natural laws for bodies and to be subject to generation and destruction. But at the same time this natural body is radically different on account of its substantial unity with a soul-principle of divine origin.⁴⁷ I will now examine Aristotle's theoretical treatment of this problem by re-examining the entire argument of chapters 2 and 3 of *De longitudine vitae*.

Aristotle opens chapter 2 remarking: 'We must answer the question what among things that exist by nature it is that is easily destroyed, and what it is that is not easily destroyed'⁴⁸. I noted above that this also includes the reality of ensouled living creatures. Sure enough, the soul of living creatures is not itself physically characterized but incorporeal and so it is not affected by the physical processes which take place in a material body. However, according to Aristotle, the soul-principle is *indissolubly connected* with a natural body, which it uses as an instrument. When he asks in *De anima* I 1 whether emotions (*pathè*) belong specifically to the soul or also to that which possesses soul, his answer is: 'It seems that of the majority of them, there is not one which (the soul) undergoes or exercises without a body,

⁴⁷ For Aristotle, fire which is connected in a substantial unity with a soul-principle differs essentially from 'ordinary' fire. Just so, *pneuma* as the medium of a vital principle differs essentially from *pneuma* in the sense of 'wind' in Aristotle's view.

⁴⁸ *Long.* 2, 465a13-14: Δεῖ δὴ λαβεῖν τί τὸ εὐφθαρτὸν ἐν τοῖς φύσει συνεστώσιν καὶ τί τὸ οὐκ εὐφθαρτὸν.

for instance anger, courage, desire, and sensation generally. Only intellectual activity seems specific (to the soul itself).⁴⁹

Here a parenthetical comment is in place. In his definition of the soul in *De anima* II 1, 412b5 Aristotle spoke about the soul as the entelechy of a natural body which is *organikon*. But he did not say there whether or not this natural body is one of the sublunary natural bodies. His definition of soul as given in that chapter may include the soul of the heavenly beings as well. However, he does explain elsewhere that the *pneuma* in the sperm of earthly living creatures is an instrument of the soul.⁵⁰ And *pneuma* is 'hot air'.⁵¹ And he also explains all biotic processes as being effected by the soul using heat and fire as its instrument.⁵² But, besides, Aristotle holds that 'the *dynamis* of every soul seems to have something of a body different from and more divine than the so-called elements. And just as souls differ from one another in value and lack of value, so the corresponding substance also differs'.⁵³ This means that the *dynamis* of every soul, those of celestial beings, of human beings, of animals and plants, is inextricably linked to a body belonging to the ethereal sphere. However, in the case of sublunary creatures this heavenly component is enclosed by sublunary elementary bodies, so that it is present as a vitalizing principle in the vital heat and in the sensitive/motory *pneuma*, but as an analogue of the heavenly element.⁵⁴ The consequences this must have for the discourse on the soul are a subject of serious inquiry.

Hence Aristotle starts by observing that fire and water and the like are reciprocal causes of generation and dissolution.⁵⁵ And when he goes on to say that 'the other things arising from them (i.e. from the natural bodies) and composed of them should participate in their

⁴⁹ *Anim.* I 1, 403a5: φαίνεται δὲ τῶν μὲν πλείστων οὐθὲν ἄνευ σώματος πάσχειν οὐδὲ ποιεῖν, οἷον ὀργίζεσθαι, θαρρεῖν, ἐπιθυμεῖν, ὅλως αἰσθάνεσθαι, μάλιστα δ' ἔοικεν ἰδίῳ τὸ νοεῖν (A. Jannone). It is wrong to read here ἄνευ τοῦ σώματος, as W.D. Ross does.

⁵⁰ *Gener. anim.* I 22, 730b15-22; cf. II 3, 736b33-37.

⁵¹ *Gener. anim.* II 2, 736a1.

⁵² Cf. *Anim.* II 2, *Gener. anim.* II 1, 734b28-36 and *Resp.* 8, 474b9-12.

⁵³ *Gener. anim.* II 3, 736b29: Πάσης μὲν οὖν ψυχῆς δύναμις ἑτέρου σώματος ἔοικε κεκοινωνηκέναι καὶ θειοτέρου τῶν καλουμένων στοιχείων· ὥς δὲ διαφέρουσι τιμιότητι αἱ ψυχαὶ καὶ ἀτιμίᾳ ἀλλήλων οὕτω καὶ ἡ τοιαύτη διαφέρει φύσις. This text was discussed in ch. 8 above. The divine natural body according to *Cael.* I 3, 270a21 has no contrary.

⁵⁴ *Gener. anim.* II 3, 736b37.

⁵⁵ *Long.* 2, 465a14-16.

nature',⁵⁶ he is evidently aware that the situation is more complicated in the case of these entities.

Given the fact that the doctrine of the soul's immortality was such an important doctrine in the circles of Platonists and Pythagoreans, and that Aristotle accepted its tenet of the soul as incorporeal form, it seems natural to ask what the consequences of his new approach are. In particular there is the question how the combination of an incorporeal soul-principle with an instrumental physical body might affect that instrumental body. The consequences of the soul's *koinônia* with the body or corporeality need to be considered.⁵⁷ And this seems to be the reason for Aristotle's question: 'Is there a place where the corruptible may be incorruptible?'.⁵⁸ In the substantial unity of soul and instrumental natural body, this natural body, so far as it arises from the sublunary elements, is structurally subject to decay. But it is worth considering the theoretical question whether any sublunary natural body can be indestructible, either by itself or in particular in the special combination with an immaterial soul-principle.

The decay of accidental qualities: knowledge and health

We have been running ahead of the text and touching on the problems chapter 3 presents. Now we must look more closely at the questions which Aristotle raises in 2, 465a19-26. The discussion there no longer deals with 'generation and destruction' (as in the case of the elements), but focuses on the problem of 'destruction' alone. Aristotle deals at length with the question of the generation of living creatures in *De generatione animalium*. Here he wants to investigate why some living creatures die sooner than others. In the text passed down to us he gives the examples of the dissolution of 'scientific knowledge' and 'health' and 'disease' in 465a20-21, whereas in a22-23 he elaborates only on the dissolution of 'scientific knowledge' and 'ignorance'.⁵⁹ Ignorance passes away through recollection and learning,⁶⁰ scientific knowledge through forgetfulness or error. But this

⁵⁶ Long. 2, 465a16-18.

⁵⁷ Long. 2, 465a31-32.

⁵⁸ Long. 3, 465b1-2.

⁵⁹ This leads W.D. Ross to add <καὶ ἀγνοίᾳ> in 465a20. P. Siwek considers this addition unnecessary.

⁶⁰ Cf. *Gener. corr.* I 3, 318a34: φαμὲν γὰρ τὸν μαθητὴν γίνεσθαι μὲν ἐπιστήμονα, γίνεσθαι δ' ἀπλῶς οὐ.

does not mean the death of the 'vehicle' of ignorance or scientific knowledge.⁶¹

To understand Aristotle's intentions, it is important to specify what exactly he means by 'vehicle'. Various parts of the *Parva naturalia* are helpful here, in particular the treatise dealing with 'Memory and recollection'.⁶² This treatise explains that memory and recollection have their basis in sensation and that all sensory knowledge can be located in the *prôton aisthêtikon*, which is the coordinating centre of the five senses.⁶³ The impression of the perceived objects (which can become objects of memory themselves) is located by Aristotle 'in the soul and in the part of the body which contains the soul'.⁶⁴ And Aristotle declares that memory is a somatically characterized activity.⁶⁵ In that regard, then, these functions correspond entirely with sensation itself, of which Aristotle had also said that it does not take place 'without body'.⁶⁶

As for the activity of learning, Aristotle had explained in *De sensu et sensibilibus* that it depends on hearing. But hearing, too, is an activity of the soul which does not take place 'without body'.⁶⁷

If we can assume that the various parts of the *Parva naturalia* were not written during totally different phases of Aristotle's career, we can conclude that in *De longitidine*, too, Aristotle is not discussing learning, remembering, and forgetting as functions of the incorporeal

⁶¹ Cf. *Gener. corr.* I 4, 319b12: οἷον τὸ σῶμα ὑγιαίνει καὶ πάλιν κάμνει ὑπομένον γε ταυτό. See also *Phys.* V 2, 225b31-33.

⁶² Cf. also *Anim.* II 2, 414a4: Ἐπεὶ δὲ ὅ ζῶμεν καὶ αἰσθανόμεθα διχῶς λέγεται, καθάπερ ὃ ἐπιστάμεθα (λέγομεν δὲ τὸ μὲν ἐπιστήμην τὸ δὲ ψυχὴν, ἑκατέρῳ γὰρ τούτων φαμέν ἐπιστάσθαι) ὁμοίως δὲ καὶ ὃ ὑγιαίνομεν (τὸ μὲν ὑγίεια τὸ δὲ μορίῳ τινὶ τοῦ σώματος ἢ καὶ ὅλῳ), τούτων δ' ἡ μὲν ἐπιστήμη τε καὶ ὑγίεια μορφή καὶ εἶδος τι καὶ λόγος καὶ οἷον ἐνέργεια τοῦ δεκτικοῦ (A. Jannone).

⁶³ See *Mem.* I, 450a11; a14. In 451a16 this *prôton aisthêtikon* is called a μῶριον τῶν ἐν ἡμῖν. On this subject, see P. Webb, 'Bodily structure and psychic faculties in Aristotle's theory of perception', *Hermes* 110 (1982) 25-50.

⁶⁴ *Mem.* I, 450a28: ἐν τῇ ψυχῇ καὶ τῷ μορίῳ τοῦ σώματος τῷ ἔχοντι αὐτήν. Cf. 450b5: τοῦ δεχομένου. The fact that, to explain the memory function, Aristotle speaks about 'impressions' (*typoi*), comparable with the impressions of a signet ring, is much easier to understand if we recognize that Aristotle spoke about a soul-soma. In his discussion of this theme the Neoplatonist Proclus (*In Remp.* 348, 17 ed. Kroll) freely speaks about the soul-body in which these 'impressions' are imprinted as the soul's *pneumatikon ochêma*.

⁶⁵ *Mem.* 2, 453a14-24.

⁶⁶ *Anim.* I 1, 403a5-7.

⁶⁷ *Sens.* I, 437a11-17. This is also the purport of *Anim.* I 4, 408b13: βέλτιον γὰρ ἴσως μὴ λέγειν τὴν ψυχὴν ἐλεεῖν ἢ μανθάνειν ἢ διανοεῖσθαι, ἀλλὰ τὸν ἄνθρωπον τῇ ψυχῇ. To the extent that all *pathê* are forms of motion (408b3-4), they must be primarily attributed to the somatic vehicle of the soul (408a30-33).

soul alone, but as functions of *the soul and its instrumental body*. Rightly, therefore, Aristotle sees a parallelism between the problem of the relationship of knowledge (or ignorance) with its vehicle (which is a somatic vehicle too) and the relationship of the soul with its body.

However, Aristotle can justly assert that living creatures may acquire or lose knowledge without their ability to acquire knowledge being impaired, but that when the 'vehicle' of knowledge is lost, the knowledge stored in the vehicle is lost too. Knowledge and the vehicle of knowledge (the soul) do not form a substantial unity but an accidental one⁶⁸.

Of course, Aristotle could have said: when the *prôton aisthêtikon* (*sôma physikon*) perishes, the images, memories, and expectations stored in the *prôton aisthêtikon* also perish, and in this sense the destruction of knowledge follows the fate of its physical vehicle.⁶⁹ But the example he gives is: 'when living creatures die, the knowledge and health resident in them is destroyed too'.⁷⁰ Is there a reason for this?

The explanation could be that Aristotle based all sensory and cognitive activity in the vital function⁷¹ (which in turn is a faculty of the soul that cannot be realized 'without body'). Aristotle can therefore conclude that cognitive activity loses its basis when this fundamental function is terminated. The consequences of this are manifest in the death of the visible living creature.

What is the relationship of soul with sôma?

The distinctions thus developed are used by Aristotle to shed light on the situation of the soul. And he distinguishes two possibilities:

(a) The soul's relationship with its 'vehicle' is like that of 'knowledge' with the 'vehicle' of knowledge, that is to say, it does not 'by nature' have an indissoluble *koinônia* with its vehicle.⁷²

(b) The soul's relationship with its vehicle is a different one.

Aristotle opts for (b). For he says in 465a30: 'Since soul appears

⁶⁸ For Aristotle's views on 'accidental', see T. Ebert, 'Aristotelian accidents', *Oxf. Stud. Anc. Philos.* 16 (1998) 133-159.

⁶⁹ *Long*, 2, 465a23: κατὰ συμβεβηκὸς δ' ἀκολουθοῦσι τοῖς φυσικοῖς αἱ τῶν ἄλλων φθοραί.

⁷⁰ *Long*, 2, 465a25-26: φθειρομένων γὰρ τῶν ζώων φθείρεται καὶ ἡ ἐπιστήμη καὶ ἡ ὑγίεια ἢ ἐν τοῖς ζώοις.

⁷¹ Vgl. *Anim.* II 3, 415a1: ἄνευ μὲν γὰρ τοῦ θρεπτικοῦ τὸ αἰσθητικὸν οὐκ ἔστιν.

⁷² *Long*, 2, 465a27-30.

not to behave in that way' (i.e. since the soul's presence in the *sôma physikon organikon* which is its vehicle evidently does not alternate with a situation of absence, as is the case with the presence of knowledge in the soul, which can alternate with an absence of knowledge).⁷³

Though we cannot say that the passage in 465a30: ἐπεὶ οὐ φαίνεται τοιαύτη οὐσα is a direct reference to *De anima* I 1, 403a5: φαίνεται δὲ τῶν μὲν πλείστων οὐθὲν ἄνευ σώματος πάσχειν οὐδὲ ποιεῖν..., yet Aristotle is certainly recalling the arguments in that chapter, on the basis of which he concluded in *De anima* II 1, 412b6 that we should not ask whether the soul and its *sôma physikon organikon* are one⁷⁴. However, in contrast to what Nuyens and Lefèvre believed, this is not a sign of hylomorphism in the traditional sense but evidence of the same 'instrumentalism' which pervades the *Parva naturalia* and which Lefèvre had in fact noticed in these works. Aristotle, indeed, had presented the relation of the incorporeal soul to its natural instrumental body as a relation of hylomorphistic unity *and* as a relation of a user to its instrument, while at the same time the soul-principle directs all the parts of the visible body by means of that instrumental body.

The soul's *koinônia* with the reality of natural bodies is therefore different from the relationship of knowledge with the somatic vehicle of knowledge.⁷⁵

In chapter 3 Aristotle continues posing the question which follows logically from the foregoing: is there a place where the corruptible may be not corruptible?⁷⁶ This would mean that, in the substantial unity of the soul and its natural instrumental body, the natural component, though perishable, does not necessarily perish, so that a sublunary living creature could be eternal.⁷⁷ If this is impossible, as Aristotle will argue, the soul can only function as the principle of a living creature for a longer or shorter period.

⁷³ Long 2, 465a30-31. Aristotle also treats phenomena like 'absences' (λείπο-ψυχία) as a weakness of the soul's perceptive faculty in *De somno* 2, 455b4; 456b11-15.

⁷⁴ *Anim.* II 1, 412b6: διὸ καὶ οὐ δεῖ ζητεῖν εἰ ἐν ἡ ψυχὴ καὶ τὸ σῶμα.

⁷⁵ Long. 2, 465a31: ἄλλως ἂν ἔχοι πρὸς τὴν τοῦ σώματος κοινωνίαν. Cf. P. Siwek (1963) 271 n. 12. *Anim.* I 3, 407b18 also speaks about the soul's *koinônia* with the body which houses the soul and is set in motion by the soul and: διὰ γὰρ τὴν κοινωνίαν τὸ μὲν ποιεῖ τὸ δὲ πάσχει καὶ τὸ μὲν κινεῖται τὸ δὲ κινεῖ.

⁷⁶ Long. 3, 465b1-2. I. Düring (1966) 569, notes: 'Der Ausgangspunkt des nun folgenden, an sich rätselhaften Kapitels ist wahrscheinlich eine Stelle im *Phaidon* (70a)'.

⁷⁷ This problem does not apply to the divine celestial beings, because the *sôma physikon organikon* of their soul-principles consists of the eternal fifth element.

Aristotle goes on in the transmitted text to make a suggestion: 'for example, the fire above, where its contrary does not exist'.⁷⁸

At first sight Ross seems right to remark that the question has little connection with the context. But we can try to adduce material which needs to be considered in the discussion of this passage.

There are two interconnected questions.

1. What kind of 'fire' is discussed in 465b2? And:

2. How can this fire illustrate the previous question about a possible indestructibility of something destructible?

Does Aristotle mean fire in 'the upper part of the cosmos'?

There is one Aristotelian text (which has to my knowledge never been connected with this passage) in which Aristotle discusses expressly living creatures which consist of fire. He does so not as a purely hypothetical case but as a category of living creatures which must necessarily exist—but not in our earthly regions. This kind of living creature is to be found on the Moon. In *De generatione animalium* III 11, the chapter in which Aristotle discusses the phenomenon of 'spontaneous generation', he enumerates:

Plants may be assigned to land, aquatic animals to water,⁷⁹ all walking living creatures to air. But variations in quantity and distance make a great and surprising difference. But the fourth category must not be sought in the regions here. And yet it is plausible that there is also one (category of living creatures) on the level of fire, for this is counted as the fourth of the bodies. But fire never appears to show its own form, but is present in one of the other bodies: for air or smoke or earth appears to be permeated by fire. But we should seek such a category (of living creatures) on the Moon. For it (the Moon) seems to participate in the fourth distance. But to these things we will have to devote another discussion.⁸⁰

For all that this passage is unique in the Corpus, it can be accepted as wholly Aristotelian.⁸¹ The idea that there is a hierarchy in quality of

⁷⁸ Long, 3, 465b2: οἷον τὸ πῦρ ἄνω, οὐ μὴ ἔστιν τὸ ἐναντίον.

⁷⁹ Cf. Long, 5, 466b33-467a1.

⁸⁰ *Gener. anim.* III 11, 761b13-23. See on this text ch. 8 above. See also *Motu anim.* 4, 699b19: τοὺς ἐπὶ τῆς σελήνης, and *Ioanni Philoponi* (Michaelis Ephesii) *In libros De Generatione animalium comm.* ed. M. Hayduck (1903) 159-160. And see Arist. *Philos. Resp.* 13, 477a28-32. A similar hierarchy of living beings is discussed in Arist. *Philos.* fr. 21a Ross; 835 Gigon.

⁸¹ Cf. W. Lameere, 'Au temps où F. Cumont s'interrogeait sur Aristote', *Ant. class.* 18 (1949) 279-324. As regards the identity of these creatures, Lameere

life by which living creatures differ according to whether their vital principle is 'purer' or less pure is Aristotelian through and through. This quality is lower to the extent that living creatures are further removed from the divine origin of all life, or from the ethereal sphere, and so participate more in the natural bodies of a lower order.⁸² But again we should not take this to mean that for Aristotle the visible bodies of plants participate more in earth than fish and that the visible bodies of fish participate more in water than land animals. As I argued in chapter 8 above, it is likely that for Aristotle the difference is determined by the composition of the soul's *sôma organikon*. It is rather strange that even A.L. Peck comments on 761b14-15: 'It is difficult to attach any meaning to this statement'. Though Aristotle declares in *De generatione animalium* II 3 that fire does not produce life,⁸³ he does so in a context dealing with 'vital heat' as deriving from ether. So there is no contradiction with *De generatione animalium* III 11 if we note that the principle of life is always a soul which participates in ether, but that the soul differs qualitatively according to whether it has 'coverings' from the lower spheres of the elements.⁸⁴

In Aristotle's cosmological system the sphere of the Moon forms the boundary between the ethereal sphere and the sublunary sphere. If creatures with bodies consisting of fire live there, we may suppose that these bodies are not threatened by the effect of opposing elementary forces.⁸⁵

Or does Aristotle mean by 'fire' the vital heat of living creatures?

As we noticed before, Aristotle in 465b11ff. resolutely dismisses this possibility which he hypothetically suggested in 465b1-3. He argues

suggests: 'que les animaux de la région du feu seront des êtres semi-divins, semi-mortels, c'est-à-dire des démons' (p. 302). We may wonder whether the demon Silenus, who played an important role in Arist. *Eudem.* fr. 6 Ross; 65 Gigon, was presented by Aristotle as such a lunar creature. On this figure see ch. 13 below.

⁸² Cf. *Gener. anim.* II 3, 736b29-33 and especially b 31: ὡς δὲ διαφέρουσι τιμιότητι αἱ ψυχαὶ καὶ ἀτιμίᾳ ἀλλήλων οὕτω καὶ ἡ τοιαύτη διαφέρει φύσις. This divine element is the essence of *pneuma*, 736b37: ἡ ἐν τῷ πνεύματι φύσις, ἀνάλογον οὖσα τῷ τῶν ἄστρον στοιχείῳ.

⁸³ *Gener. anim.* II 3, 737a1: πῦρ μὲν οὐθὲν γεννᾷ ζῶον, οὐδὲ φαίνεται συνιστάμενον ἐν πυρουμένοις οὐτ' ἐν ὑγροῖς οὐτ' ἐν ξηροῖς οὐθέν.

⁸⁴ On this problem, see also W. Jaeger, *Aristotle* 144-148 and A.L. Peck, *Aristotle, On the Generation of animals* 352-353 n. a.

⁸⁵ Cf. *Long.* 3, 465b7: ὥσθ' ὃ μὴ ἔστιν ἐναντίον καὶ ὅπου μὴ ἔστιν, ἀδύνατον ἂν εἶη φθαρῆναι.

that something which possesses *hylè* must have a contrary, and he derives an argument from the production of 'residues' (b16).

Therefore we will have to interpret the question in 465b1-2 as: 'Is there a place where the corruptible part may be incorruptible, for example the vital heat (that is the vehicle of soul) in the upper part of the body of the living being, where its contrary (the cold) does not exist',⁸⁶ or, more specifically: is the substantial unity of the soul with the soul-body such that its material part (which is perishable) need not perish? In that case Aristotle is discussing the soul in the sense of the duality of soul-principle and soul-body. This, at least, makes for a good connection with the end of chapter 2.

However, in 3, 465b11 Aristotle rejects the possibility for which he had made such a strong theoretical case. A substantial unity of a soul-principle and a destructible instrumental body cannot be indestructible. That is why living creatures in the sublunary sphere must die sooner or later. Beings may live forever in the celestial region, where the soul-principles of the celestial beings form a substantial unity with an instrumental body which consists of immortal ether, but beings cannot live eternally in the earthly sphere. How does Aristotle argue this sad position? The arguments he marshals seem to indicate that we have been looking in the right direction for a solution to the preceding section.

The argument he first puts forward is: 'it is impossible that anything which possesses matter should have no contrary in some sense'.⁸⁷ What does this assertion mean in the line of argumentation? What is meant by 'that which possesses matter'? In my view, this may refer to the substantial unity of soul-principle and instrumental body, which produces the visible body of the living individual from the matter supplied to it.⁸⁸ We should consider here that Aristotle argued at length in *De generatione animalium* that the embryonic stage of every living creature is composed of the formative principle which is provided by the male and of the matter provided at first by the female⁸⁹. From that starting point the visible body is formed through the intake of food that is integrated.⁹⁰

⁸⁶ See *Long*. 6, 467a33-34: ἐν δὲ τῷ ἄνω τὸ θερμόν, καὶ τὸ ψυχρὸν ἐν τῷ κάτω.

⁸⁷ *Long*. 3, 465b11: ἀδύνατον γὰρ τῷ ὕλῃν ἔχοντι μὴ ὑπάρχειν πως τὸ ἐναντίον.

⁸⁸ Cf. also *Long*. 5, 466b31: τὸ φυσικὸν θερμόν, τὸ πρῶτον πεπτικὸν (ὄν), ἀναλίσκει τὴν ὕλῃν ἐν ᾗ ἐστίν.

⁸⁹ *Gener. anim.* I 18, 724a8ff.

⁹⁰ Cf. *Gener. anim.* II 3, 736b29-35.

But the formative and material principles are contrary to one another. They act on one another. Hence a living being cannot possibly remain identical with itself. Hence the adult phase of a living creature is always followed in the natural course of events by decay and loss of function.

When 'heat' is next given as an example, we may surmise that Aristotle chooses this example because the soul is the source of vital heat for living creatures. This vital heat must always inhere in something,⁹¹ namely in the entire visible body of a living creature, and this material body will always occupy the position of a 'contrary' for the vitalizing heat of the soul.

This is underlined by the proposition: 'If, whenever the active and the passive exist together, the one acts and the other is acted upon, it is impossible that no change should occur'.⁹² Aristotle is not just speaking here about the necessity that fire gives off heat to its environment, but about the substantial unity of the soul-principle and its instrumental body as an (active) principle of form, nutrition and motion, and about the visible body as a passive principle. There is no such interaction between the form and matter of a bronze statue (in which *technè* is the formative principle and the artist the efficient cause). This structural relationship between an (incorporeal) leading principle and its instrumental body that in combination act upon the visible body as its matter, rules out a state of total stability and unchangeability between an active, formative principle and a passive, material visible body, such as is possible for eternal beings.⁹³ Living creatures which cannot be eternal always alternate in sharing in the better and the worse.⁹⁴

In 3, 465b16 it again becomes clear, in a totally different way, that Aristotle is speaking about ensouled, living substances and not just about elementary bodies. He raises the point here that it is necessary to produce 'a residue' (*perittôma*).⁹⁵ This is an aspect of the biotic

⁹¹ Long. 3, 465b12: πάντη μὲν γὰρ ἐνεῖναι τὸ θερμὸν ἢ τὸ εὐθὺ ἐνδέχεται, πᾶν δ' εἶναι ἀδύνατον ἢ θερμὸν ἢ εὐθὺ ἢ λευκόν. ἔσται γὰρ τὰ πάθη κεχωρισμένα. Cf. *Gener. corr.* I 3, 317b11 and 33. We see again here that Aristotle's doctrine of categories had a strongly anti-Platonic thrust.

⁹² Long. 3, 465b14-16: εἰ οὖν, ὅταν ἅμα ἦ τὸ ποιητικὸν καὶ τὸ παθητικόν, αἰεὶ τὸ μὲν ποιεῖ τὸ δὲ πάσχει, ἀδύνατον μὴ μεταβάλλειν.

⁹³ Cf. *Gener. anim.* II 1, 731b24-35. See also *Gener. corr.* I 7, 324a5-14.

⁹⁴ *Gener. anim.* II 1, 731b28. Cf. Long. 3, 465b29: αἰδία δ' οὐδαμοῦ, ὅσοις ἐναντία ἔστιν.

⁹⁵ Long. 3, 465b16: ἔτι καὶ εἰ ἀνάγκη περίττωμα ποιεῖν. E. Rolfes (1924) 147, R. Mugnier (1953) 96, and P. Siwek (1963) 272 n. 16, take this to refer to fire, which

process of metabolism and nutrition. By means of the heat of the *threptikon sôma* which is its instrument, the nutritive soul causes the digestion of absorbed food into food that can be integrated. But the result of this process are waste products and residues. Thus sperm and the female contribution to the reproductive process are presented by Aristotle as *perittômata*.⁹⁶ The underlying idea here is that sublunary living creatures necessarily produce residues and such products always derive from matter which is alien and contrary to the living creature, and these residues themselves are equally alien and contrary to the living creature. This is brought out most clearly by the fact that another living creature may be generated from the *perittôma* which sperm is. Aristotle also adduces the biotic process in which *perittômata* are produced in order to show that living substances are not eternal and constant and self-identical. He makes this point in chapter 5, where he argues that males which display high levels of sexual activity can be seen to age quickly.⁹⁷

Only if no substance contrary to the living subject actually existed, would it be conceivable that the soul's instrumental body which forms a substantial unity with the soul-principle, would not perish.⁹⁸ But Aristotle objects that in that case the environment (*to periechon*)⁹⁹ of the living being would bring about the destruction of the soul-body. Aristotle develops this point in chapter 5 when observing that cold regions are life-shortening.¹⁰⁰ The passage 465b23-25 placed between brackets by W.D. Ross chimes well with this idea; I therefore

produces ash as a residue. But a *perittôma* is always a product of the biotic metabolic process. This is also shown by chap. 5 of *Long*. See also *Spir.* 1, 481a20: εἴ τε περίττωμα πάσης τροφῆς ἐστὶ, ...

⁹⁶ Cf. *Gener. anim.* I 18, 724b24ff. See also *Long*. 5, 466b8: τὸ γὰρ σπέρμα περίττωμα. W.S. Hett and G.R.T. Ross (1984) wrongly translate 'waste product'. G.R.T. Ross in 1931 even used the word 'refuse'. W.D. Ross (1955) 287 has 'surplus-product'.

⁹⁷ *Long*. 5, 466b4-16 with b7: διὸ καὶ τὰ ὀχευτικά καὶ πολὺσπερμα γηράσκει ταχύ.

⁹⁸ *Long*. 3, 465b19: εἰ δὲ πᾶν ἐξελεύει τὸ ἐνεργεῖα ἐναντίον, κἂν ἐνταῦθ' ἀφθαρτον ἂν εἴη. By ἐνταῦθα Aristotle refers to the sublunary world.

⁹⁹ E. Rolfes proposes the make shift solution: 'Umgebend hat hier wohl den weiteren Sinn von benachbart'. On the importance of τὸ περιέχον for the life of living beings see *Phys.* VIII 6, 259b7-13: οὐ γὰρ ἐξ αὐτοῦ τὸ αἶτιον, ἀλλ' ἐνείσιν ἄλλαι κινήσεις φυσικαὶ τοῖς ζώοις, ἃς οὐ κινεῦνται δι' αὐτῶν, οἷον αὐξησις φθίσις ἀναπνοή, ἃς κινεῖται τῶν ζώων ἕκαστον ἡρεμοῦν καὶ οὐ κινούμενον τὴν ὑφ' αὐτοῦ κίνησιν. τούτου δ' αἶτιον τὸ περιέχον καὶ πολλὰ τῶν εἰσιόντων, οἷον ἐνίων ἢ τροφή.

¹⁰⁰ In *Long*. 1, 465a9-10 he had also observed that people in warm regions live longer than those in cold parts. Cf. 3, 465b26-27. See also *Gener. anim.* IV 10, 777b6-8, which is about the role of τὸν περιέχοντα ἀέρα, the 'environment'. See further V 4, 784b5-6.

propose to insert it after φθείρεται in b21. The idea that (excessively) great heat in the atmosphere may extinguish the vital heat is a proposition which occurs repeatedly in Aristotle.¹⁰¹

The final conclusion of this whole discussion, which may be called theoretical but is also relevant to the subject of the treatise, is: 'Hence all things are at all times in a state of change and are coming into being or passing away'.¹⁰²

That Aristotle was discussing living beings throughout chapter 3 becomes evident again in his remark: 'Therefore, when they are transposed into a different location, they become longer or shorter lived than their (original) nature, but nowhere everlasting, in so far as they have contraries'.¹⁰³ That thesis is underlined in chapter 5 where he states: 'the same living being is longer lived in warm regions than in cold ones for the same reason why they are larger'.¹⁰⁴

And the chapter ends with the remark: 'For matter always has a contrary'. Aristotle is clearly speaking about something different here compared with b11. In b11 the active, formative principle was set against its passive matter as a contrary 'in a certain sense'. Here he is concerned with the fact that all matter possesses potentiality. 'So, if the contrariety is (contrariety) of place, the change is locomotion; if of quantity, the change is growth and diminishing; if of quality, a change of quality takes place'.¹⁰⁵ He differentiates his conclusion for plants, lower animal species, and higher, locomotive animal species. In all cases the soul through its instrumental body effects all kind of changes that take place in the parts of their visible bodies. And the degree to which they can continue to realize these changes determines whether the lives of those living entities will be shorter or longer by nature.

The upshot of Aristotle's argument is that he explains the life cycles of living creatures, in which a beginning, a peak, and a final phase can be distinguished, by means of the structural corruptibility of both their visible body and the instrumental body of their soul.

¹⁰¹ *Long.* 5, 466b30; *Iuv.* 5, 469b33-470a3; cf. *Insomn.* 3, 461a1-2.

¹⁰² *Long.* 3, 465b25: διὸ πάντα αἰεὶ ἐν κινήσει ἐστί, καὶ γίνεται καὶ φθείρεται.

¹⁰³ *Long.* 3, 465b27-29: καὶ διὰ τοῦτο μετατιθέμενα πολυχρονιώτερα μὲν γίνεται καὶ ὀλιγοχρονιώτερα τῆς φύσεως, αἴδια δ' οὐδαμοῦ, ὅσοις ἐναντία ἔστιν.

¹⁰⁴ *Long.* 5, 466b16-18: τὰ δ' αὐτὰ ἐν τοῖς ἀλεινοῖς μακροβιώτερά ἐστιν ἢ ἐν τοῖς ψυχροῖς τόποις, διὰ τὴν αὐτὴν αἰτίαν δι' ἥν περ καὶ μείζω. Cf. also 1, 465a9-10 and *Gener. anim.* IV 10, 777b6-8; V 4, 784b5-6.

¹⁰⁵ *Long.* 3, 465b29-32. Cf. *Cael.* I 3, 270a12-35; *Gen. corr.* I 4, 319b31-34; *Metaph.* H 1, 1042a32-b8.

And it is the diminishing of the *sôma threptikon* which leads to the decay of the concrete visible body of a plant, an animal, or a human being, and ultimately to its death.

What is the meaning of 'fire above'?

In my view, therefore, the text forces us to identify 'the corruptible' in 465b2 with the instrumental soul-body of a sublunary living creature. But we must now return to Aristotle's example: 'fire above'. Can this be explained in accordance with the above argument? The text of *De longitudine* itself gives us the clue. Chapter 6 mentions 'the upper and lower parts' of plants and living creatures and notes that among living creatures the males usually live longer because 'the upper parts' are usually larger in them than 'the lower', while 'the (vital) heat (*to thermon*) resides in the upper part and the cold in the lower'.¹⁰⁶ It is clear that 'heat' here refers to the central location of the vital heat. Elsewhere in the *Parva naturalia* Aristotle freely calls this 'fire',¹⁰⁷ 'natural fire',¹⁰⁸ and even 'psychic fire'.¹⁰⁹ In *De generatione animalium* he had also said that 'fire' never assumes its own form but always exists in something else which is made fiery through it.¹¹⁰ Is this what Aristotle is speaking about in 3, 465b1-2?

Support for this view is offered by the fact that Aristotle speaks about 'heat' (*to thermon*) in 465b12 and 13 too, and about the production of 'residues' in 3, 465b16-19, inasmuch as the vital heat is the driving force of the digestive system (*pepsis*) of which the residues are a result. Another link with this theme is provided by the mention of 'a greater flame' and 'a lesser flame' in 465b23-25, where Aristotle

¹⁰⁶ *Long.* 6, 467a31: ἐν τε γὰρ τοῖς ζώοις τὰ ἄρρενα μακροβιώτερα ὥς ἐπὶ τὸ πολὺ - τούτων δὲ τὰ ἄνω μείζω ἢ τὰ κάτω ..., ἐν δὲ τῷ ἄνω τὸ θερμόν, καὶ τὸ ψυχρόν ἐν τῷ κάτω. Cf. *Part. anim.* IV 10, 686b5 and *Inc. anim.* 4, 705a3; *Somn.*, 3, 457a12: ὅταν γὰρ πολὺ φέρεται τὸ πνεῦμα ἄνω and a17: τὰ ἄνω. See also *Resp.* 13, 477a20-23, where a relationship is said to exist between man's 'upper part' and the upper part of the cosmos! See also *Resp.* 20, 479b23. Another interesting comparison is with *Plu. Facie* 927F: οὐδὲ τοῦ πυρὸς τὸ μὲν ἄνω περὶ τὰ ὄμματα ἀποστίλβον κατὰ φύσιν ἐστὶ τὸ δ' ἐν κοιλίᾳ καὶ καρδίᾳ παρὰ φύσιν ἄλλ' ἕκαστον οἰκείως καὶ χρησίμως τέτακται.

¹⁰⁷ *Resp.* 8, 474a28.

¹⁰⁸ *Resp.* 8, 474b12.

¹⁰⁹ *Resp.* 15, 478a16. Cf. *Gener. anim.* III 11, 762a20: θερμότητα ψυχικὴν. See also J. Althoff, 'Das Konzept der generative Wärme bei Aristoteles', *Hermes* 120 (1992) 183-193.

¹¹⁰ *Gener. anim.* III 11, 761b18-21.

also says that the vital heat exhausts the ‘matter’ in which it is present.¹¹¹

Does this mean that ‘the fire above’ should be interpreted as ‘the vitalizing fire which resides in the upper parts of the body of the living creature’? To me that seems a necessary and cogent conclusion from the preceding discussion.¹¹²

Who was able to follow the argument of De longitudine vitae 2-3?

Finally, I would like to comment on the difficulty of the passage discussed above. We may ask with good reason: supposing that the attempt to explain this passage is correct or nearly correct, for what reader can this text have been intended? Who would have been able to grasp all the assumptions implied in the text and follow its train of thought? What reader would have had ready knowledge of all aspects of Aristotle’s philosophizing, so that he could avoid taking a wrong turning and ending up on the wrong track?

The same question could have been asked when we discussed the text of *De anima* II 1. And *De anima* III 4-5 and *Metaphysics* Λ 7 are comparable examples.

In fact, these texts refuse to make any concessions to a ‘simple’, uninitiated reader. Certainly the author did not wish to appeal to a broad audience.¹¹³ But even members of his own school would have been hard put to follow precisely all the details of the argument.

I would therefore suggest that passages like *De longitudine vitae* 2-3 show that these texts were intended for a highly specific and very limited reading group, namely a reading group consisting of one person, who is *the author himself*. It is texts like these which form the strongest argument for the view that the Aristotelian Corpus consists

¹¹¹ *Long.* 5, 466b31: οὕτω τὸ φυσικὸν θερμὸν, τὸ πρῶτον πεπτικὸν, ἀναλίσκει τὴν ὕλην ἐν ᾗ ἔστιν.

¹¹² In *Gener. anim.* II 6, 741b25ff. Aristotle talks in the same way about τὰ ἄνω and τὰ ἄνω with the midriff as the boundary with regard to τὸ κάτω, in all (higher) animals who have such a differentiation. Cf. 742b13-18 and V 1, 779a6: τοῖς ἄνω τοίοις. See also *Part. anim.* III 4, 665b18; II 2, 647b31-36; 648a12.

¹¹³ There is an interesting statement in this connection in a letter which Aristotle is traditionally said to have written to Alexander on the subject of the lecture notes: ‘They are made accessible but at the same time they are not made accessible. For they can only be understood by those who attended my lectures’ (ἴσθι οὖν καὶ ἐκδεδομένους καὶ μὴ ἐκδεδομένους· ξυνετοὶ γὰρ εἰσιν μόνοις τοῖς ἡμῶν ἀκούσασιν). Cf. Aulus Gellius XX 5 and I. Düring, *Aristotle in the ancient biographical tradition* 432.

of the material which Aristotle wrote down *for his own use* and *to aid his own memory*. It seems to me out of the question that he presented the same text in the same words to an audience of pupils or even to a larger, general public.¹¹⁴ Though we can be grateful that various accidental circumstances have preserved this material, the loss of the writings which Aristotle himself prepared for publication remains to be regretted. These, after all, presented the same philosophical theories, laid down in the texts of the Corpus as it were in shorthand, in a way which many could understand and which was highly convincing.

¹¹⁴ As regards the two *Ethics* attributed to Aristotle, there is the evident problem how the names of Eudemus (of Rhodes) and Nicomachus (Aristotle's son) are connected with them. R.A.Gauthier, J.Y. Jolif, *Aristote, L'Éthique à Nicomaque* 2nd ed. (Louvain 1970), vol. I 84 regards them as editions of Aristotle's material made around 300 BC or later.

CHAPTER TEN

PNEUMA AND THE THEORY OF SOUL IN DE MUNDO

We have established that Aristotle himself attributed to *pneuma* (and its analogue in plants) a role by which it is more directly connected with the soul than the visible body of plants, animals, and human beings. We can now suitably mention an interesting definition of *pneuma* in the work *De mundo*, which is traditionally ascribed to Aristotle but today is usually regarded as a pseudo-Aristotelian work.¹ In chapters 2 through 5 this work discusses cosmic reality as it presents itself to the interested observer. After cataloguing the five elements, discussing the celestial beings, and treating geography in the broadest sense, the author goes on in chapter 4 to consider meteorological phenomena, which he reduces to ‘two kinds of exhalation’ (moist and dry exhalation) familiar from Aristotle’s *Meteorologica*.

Having come to the subject of wind, he notes:

It is also called *pneuma*. But *pneuma* is also used in a different sense, namely as the ensouled and life-generating substance in plants and animals which wholly permeates them. We need not deal with this here.²

Clearly, on a first reading, this passage differs markedly from the psychology traditionally attributed to Aristotle on the basis of *De*

¹ The debate over this work has been radically affected by the conclusion of J. Barnes in his review of G. Reale, *Aristotele, Trattato sul cosmo per Alessandro* (Napoli 1974) in *Class. Rev.* 27 (1977) 440-443 that there are no intrinsic arguments left for denying Aristotle’s authorship. But he believes that vocabulary and style do invalidate it. Barnes considers the work’s likely date to be before 250 BC. D.M. Schenkeveld, ‘Language and style of the Aristotelian *De mundo* in relation to the question of its inauthenticity’, *Elenchos* 12 (1991) 221-255 argued for a date between 350-200 BC. For a complete survey of the modern debate over the work, see now G. Reale; A.P. Bos, *Il trattato Sul cosmo per Alessandro attribuito ad Aristotele* (Milano 1995).

² *Mu.* 4, 394b9-12: ὅστις ἅμα καὶ πνεῦμα λέγεται. Λέγεται δὲ καὶ ἐτέρως πνεῦμα ἢ τε ἐν φυτοῖς καὶ ζῴοις (οὐσα) καὶ διὰ πάντων διήκουσα ἐμψυχός τε καὶ γόνιμος οὐσία, περὶ ἧς νῦν λέγειν οὐκ ἀναγκαῖον. The correction <οὐσα> of the Greek text is proposed by D. Holwerda, *Mnemosyne* 46 (1993) 50. For διὰ πάντων διήκουσα, cf. *Spir.* 2, 481b19: τὸ δὲ πνεῦμα δι’ ὅλου τὸ σύμφυτον. 3, 482a33: τὸ δὲ σύμφυτον πνεῦμα δι’ ὅλου. Cf. *Iuv.* 4, 469b6: πάντα δὲ τὰ μόρια καὶ πᾶν τὸ σῶμα τῶν ζῴων ἔχει τινὰ σύμφυτον θερμότητα φυσικὴν, and A.L. Peck, *Aristotle, Generation of animals* 593.

anima. That work, it is assumed, views the soul as the entelechy of the visible body. *De mundo* seems clearly to be saying that the visible body is vitalized by another body, *pneuma*, which is the real vehicle of the soul. Partly on account of this conflict with the position of *De anima*, the passage in *De mundo* has often been seen as evidence of Stoic influence on the author,³ or as evidence of the work's provenance in Jewish circles.⁴ In my view, however, it refers briefly and without further comment to a soundly Aristotelian theory, namely the theory of *pneuma* as the fine-material instrument of the soul.⁵ In the given context it is entirely natural for the author to omit the qualification that plants do not possess real *pneuma* but an analogue, what is usually called 'the innate vital heat' in the Aristotelian Corpus.⁶ Note also that the passage does not mention a *pneuma* that permeates the entire cosmos but a life-supporting substance that ensures that every part in individual living creatures possesses vitality.

Pneuma here is an ensouled substance and takes part in life. To use the terminology of *De anima* II 1, it is one of the 'natural bodies', and as such it is a 'natural body which has life', and it can also be called a 'composite substance', that is, composed of a 'natural body' and the soul as formal principle.⁷ But Aristotle does not designate *pneuma* as a living creature (ζῷον). The presence of the soul *with* its instrumental body, i.e. *pneuma* is a necessary condition for being a living creature.

³ H. Strohm, *Aristoteles, Meteorologie; Über die Welt* (Darmstadt 1970) 304 even regards it as an anti-Stoic feature of *De mundo*. Cf. L. Elders, *Aquinas* 18 (1975) 416; C. Natali, *Giornale di Metafisica* 31 (1976) 161; H.G. Ingenkamp, *A.G.Ph.* 59 (1977) 77.

⁴ For this view, cf. M.J. Lagrange, *Rev. Thom.* 32 (1927) 205. Earlier F. Ravaissou had argued that the Jewish author Aristobulus (2nd cent. BC) may have been the author of *De mundo*. Unlike Lagrange, I believe that the doctrine of *pneuma* in Philo and other later authors can only be understood if we recognize that it explains biblical data in the light of Aristotle's doctrine of *pneuma*. For Aristotle *pneuma* is a body that is vitalized by an immaterial soul-principle. For Philo the soul is connected with blood, but *pneuma* is the actual divine and life-generating principle in man. In Philo *pneuma* occupies the position which the intellect has in Aristotle's system.

⁵ Cf. the crucial text in *Gener. anim.* II 3, 736b33-737a1: πάντων μὲν γὰρ ἐν τῷ σπέρματι ἐνυπάρχει ὅπερ ποιεῖ γόνιμα εἶναι τὰ σπέρματα, τὸ καλούμενον θερμόν. τοῦτο δ' οὐ πῦρ οὐδὲ τοιαύτη δύναμις ἐστὶν ἀλλὰ τὸ ἐμπεριλαμβανόμενον ἐν τῷ σπέρματι καὶ ἐν τῷ ἀφρώδει πνεῦμα καὶ ἡ ἐν τῷ πνεύματι φύσις, ἀνάλογον οὖσα τῶν ἄστρον στοιχείῳ, which I discussed in detail in chap. 8 above.

⁶ For more commentary on the passage, cf. G. Reale, A.P. Bos, *Il trattato sul cosmo per Alessandro* 285-288. On p. 288 the authors already hypothesized that Aristotle's definition of the soul should be interpreted as: "l'anima è l'<<entelechia>> del <<pneuma>> che è l'organo dell' anima".

⁷ Cf. *Anim.* II 1, 412a15-21.

In the next chapter, which glorifies the indissoluble unity of the cosmos, the author says: 'from it (i.e. from the cosmos) all living beings have their breath and soul'.⁸ Again, this is not a sign of Stoic influence. Aristotle's own writings provide a sufficient basis for this, in that they clearly relate all forms of life in the sublunary sphere to the sphere of the divine element, ether.⁹

In connection with this doctrine of *pneuma* it is significant that the entire first chapter of the work speaks about philosophy as the activity by which the soul, guided by its intellect, raises itself, in a transcending movement, above mortal, earthly reality and rises up to the celestial and divine reality to which it is akin, where it takes in divine matters with the divine eye of the soul. All the details of this first chapter can be paralleled in Plato. The chapter is therefore often characterized as Platonistic and dualistic. P. Moraux discerns nothing typically Aristotelian in the first chapter.¹⁰ But the very fact that the author of *De mundo* apparently connected this doctrine of the rise of the soul with a theory of *pneuma* is a decisive reason for assuming that the doctrine of soul and intellect in *De mundo* I I is *not* Platonistic but typically Aristotelian. It implies the Aristotelian view that the functions of the soul, excluding that of theoretical intellectuality, cannot be understood 'without (the presence of a) body', but should always be seen in relation to a 'natural instrumental body'. I will try to show the likelihood that the same doctrine with a just as specifically Aristotelian slant was to be found in the dialogue *Eudemus*,¹¹ a work that has always suffered from the label 'Platonic dualism' as well. But we attributed the same specifically Aristotelian doctrine of intellect and soul to *De anima* too.

Precisely the 'superfluosity' of the remark in *De mundo* 4 about *pneuma* as an 'ensouled and life-generating substance' could be seen

⁸ *Mu.* 5, 397a18: 'Ἐκ τούτου πάντα ἐμπνεῖ τε καὶ ψυχὴν ἴσχει τὰ ζῷα. For P. Moraux, *Der Aristotelismus bei den Griechen von Andronikos bis Alexander von Aphrodisias*, vol. II (Berlin 1984) 29 (Ital. ed. vol. II 1, 2000, p. 37) this sentence indicates a doctrine of World Soul which is otherwise lacking in *Mu.* This is also because Moraux sees no room for accepting reports in Cicero that, in Aristotle's view, human souls consist of the astral substance (Arist. *Philos.* fr. 27 Ross; 994, 995, 996 Gigon).

⁹ Cf. *Gener. anim.* III 11, 762a21 and II 3, 736b29-31.

¹⁰ P. Moraux (1984) 8-9. Cf. A.P. Bos, 'Considerazioni sul *De mundo* e analisi critica delle tesi di Paul Moraux', *Riv. di filos. neo-scolast.* 82 (1990) 587-606, esp. 596ff.

¹¹ See chaps. 13ff. In chap. 14 I will argue that Aristotle's criticism of Plato's *Phaedrus* with its doctrine of the soul as a principle of self-movement forced him to posit that the soul's 'return home' is connected with a (fine-corporeal) *sôma*.

as an argument for the work's authenticity. Neither an unknown author of later times who wanted to write a work about the cosmos and the relation of the cosmos to God nor an imitator of Aristotle would have had any serious reason to avoid ambiguity as regards the word *pneuma*. Only Aristotle himself, whose very distinct position on living nature and the instrumental body of the soul formed the heart of his conflict with Plato, could have had occasion to make such an aside on *pneuma* in a discussion of his cosmo-theology.¹²

Furthermore, the work draws an interesting parallel between the way in which all cosmic reality functions with perfect order thanks to the dynamic governance of God, who transcends the cosmos and thrones 'on the pinnacle' of the cosmos, and the way in which the soul leads and organizes man's entire existence.¹³ Strictly speaking, this statement applies in the context of various psychological theories. But in the context of *De mundo* we have to start by asking whether an internally consistent theory can be attributed to the author. This means that we must ask how the statement on the soul's guiding activity is compatible both with what chapter 1 of the same work says about the transcendent activity of the soul under the guidance of its intellect, in its pursuit of comprehensive knowledge, and with the passage in chapter 4 on *pneuma* as an 'ensouled and life-generating substance'.

Now the same work argues emphatically that God is not present throughout the cosmos but thrones 'on the pinnacle' of the cosmos and from there, through his divine Power (*dynamis*), moves the outer celestial sphere, a movement which causes all further movement and change in the cosmos.¹⁴ The natural conclusion is that the author of

¹² My conviction that Aristotle is the author of this work is strongly founded on the improbability that there was another person who was so steeped in all facets of Aristotle's philosophy that he could write such a brilliant and successful introduction to his philosophy in the period 350-200 BC (as D.M. Schenkeveld argued), and that we would know nothing else about him. Cf. M. Furth, *Substance, form and psyche* 38 n. 12 for a similar argument relating to the authenticity of the *Categories*.

¹³ *Mu.* 6, 399b11-15: ὑπὸ γὰρ μιᾶς ῥοπῆς ὀτρυνομένων πάντων γίνεται τὰ οὐκεία, καὶ ταύτης ἀοράτου καὶ ἀφανοῦς. Ὅπερ οὐδαμῶς ἐστὶν ἐμπόδιον οὔτε ἐκείνῃ πρὸς τὸ δρᾶν οὔτε ἡμῖν πρὸς τὸ πιστεῦσαι· καὶ γὰρ ἡ ψυχὴ, δι' ἣν ζῶμέν τε καὶ οἴκους καὶ πόλεις ἔχομεν, ἀόρατος οὕσα τοῖς ἔργοις αὐτῆς ὁράται.

¹⁴ P. Moraux (1984) 38ff. turns the matter upside down. He believes that the author of *Mu.* adopted the Stoic doctrine of all-permeating divine *pneuma*, but then used it in an anti-Stoic conception which presented a transcendent deity as the origin of this all-permeating reality. This cannot be right. The Stoa's doctrine of divine *pneuma* goes back to Aristotle's doctrine of the all-permeating Power of God, which it adopted while omitting everything reminiscent of a transcendent, incorporeal reality.

De mundo similarly situates the soul in a controlling position (the heart), where as an incorporeal entelechy and by means of its *dynamis* it causes *pneuma* as an ‘ensouled substance’ or as ‘instrumental body’ of the soul to guide all vital activities of the concrete human individual.

Assuming that such a theory was an authentically Aristotelian view, we will have to attribute such a view to the author of *De mundo*—if he was not Aristotle himself—or otherwise adopt the unsatisfactory solution that the author was muddle-headed and inconsistent. It is not the author of *De mundo* who shows traces of Stoic influence here. It is the other way round: the Stoa took over the Aristotelian doctrine integrally, but stripped it of its all too metaphysical framework. The Stoa jettisoned the incorporeal formal principle and instead spoke about *pneuma* as the (subtle) material which is the vehicle of vital functions. Nevertheless, it also spoke about a *hēgemonikon*, a guiding principle of the soul, though it was actually unable to show on what basis a distinction could be made within *pneuma* between something more and something less dominant.

In this connection it is interesting, too, that Alexander of Aphrodisias proves familiar with the work and treats its doctrine of ‘divine Power’ as an Aristotelian doctrine.¹⁵ In his *Quaestio* II 3 he takes great pains to elucidate in what way this ‘divine Power’ can be the cause of life in the sublunary sphere and of differences in level of life. But he is unable to explain this satisfactorily, because he cannot see that the words ‘*organikon sōma*’ in Aristotle’s definition of the soul mean ‘instrumental soul-body’. Alexander always interpreted them as ‘the visible body equipped with organs’.

We can note further that the term *organon* is used only once in *De mundo*, in the comparison of the cosmos to a winding mechanism. Just as that entire mechanism is set in motion by the spring,¹⁶ so the outer celestial sphere in the cosmos is the conveyor of the divine

¹⁵ Alex. Aphrod. *Quaestiones* II 3 (ed. I. Bruns 1892). Cf. *Alexander of Aphrodisias, Quaestiones* I, 1 – 2, 15 transl. by R.W. Sharples (London 1992) 93-98 and P. Moraux, *Hermes* 95 (1967) 159-169.

¹⁶ There is an interesting similarity in the text of *Mu.* 6, 398b20: τὴν δύναμιν εἰς τὰ συνεχῇ δίδωσι καὶ ἀπ’ ἐκείνων πάλιν εἰς τὰ πορρωτέρω, μέχρις ἂν διὰ τοῦ παντός διεξέλθῃ· κινήθην γὰρ ἕτερον ὕφ’ ἑτέρου καὶ αὐτὸ πάλιν ἐκίνησεν ἄλλο to that of *Gener. anim.* II 1, 734b9: ἐνδέχεται δὲ τότε μὲν τότε κινῆσαι, τότε δὲ τότε ... ὧν τὸ πρῶτον ὅταν τι κίνησῃ τῶν ἔξωθεν εὐθύς τὸ ἐχόμενον γίγνεται ἐνεργεῖα.

Power. We could put it like this: the outer celestial sphere is God's instrumental natural body.¹⁷

The image elaborated in chapter 6 of the Persian great King in his royal palace, surrounded by a series of walls with their guards, can be interpreted as denoting the seven celestial spheres which the soul must pass on its journey back to its divine origin while casting off its astral coverings, in order finally to appear 'uncovered' before God, the perfect, incorporeal Intellect.¹⁸

¹⁷ *Mu.* 6, 398b15: διὰ μιᾶς ὀργάνου σχαστηρίας πολλὰς καὶ ποικίλας ἐνεργείας ἀποτελοῦντες.

¹⁸ Cf. the discussion of Hermetic Corpus X in chapter 16 below.

CHAPTER ELEVEN

THE ULTIMATE PROBLEM: HOW DID ARISTOTLE RELATE THE INTELLECT, WHICH IS NOT BOUND UP WITH *SÔMA*, TO THE SOUL, WHICH IS ALWAYS CONNECTED WITH *SÔMA*?

Looking back at the various stages of this study, we can conclude that we have a clear idea about many details of Aristotle's philosophy of living nature.

(a) The soul is an incorporeal formal principle of a plant, an animal, a human being, a lunar being, or a cosmic god.

(b) But the soul of all these living creatures is always indissolubly linked to a natural body, which serves the soul as an instrument (*organon*). By means of this *organon* as *causa efficiens* the soul produces the visible bodies of living creatures which are born and perish, in a phased process of nourishment and growth; by means of the instrumental body the soul perceives perceptibles, moves the visible body, and possesses images and concepts of empirical reality. That is to say, the soul's instrumental body is *sôma physikon threptikon*, *sôma physikon aisthêtikon*, *sôma physikon kinêtikon*, and *sôma physikon dianoêtikon*.

(c) From the outset the soul as formal principle guides the development of the instrumental body, so that in due course it acquires in actuality those psychic functions which it initially possesses only in potentiality.

(d) In animal species with sexual differentiation the soul as formal principle is passed on by adult males to their descendants by means of mating and fertilization.

Aristotle's doctrine of the relation of intellect and soul

However, we must also conclude that there is one crucial aspect of Aristotle's theory of soul of which we do not have a clear and unobstructed view. This is his theory of the way in which the intellect (*nous*) is said to be part of the soul, but can also exist and function independently of any somatic substance, and of which Aristotle can even say that it 'seems to be a different genus of soul'.¹

¹ *Anim.* II 2, 413b24-26: *περὶ δὲ τοῦ νοῦ καὶ τῆς θεωρητικῆς δυνάμεως οὐδὲν πω*

The absence of this critical information about Aristotle's philosophizing can lead to all kinds of speculations about its cause.

(1) The situation looks somewhat similar to that of Plato's teaching; according to some modern authors, Plato systematically refrained from laying down in writing what were actually the most central and fundamental notions of his philosophy. In this way his actual philosophy remained an 'unwritten doctrine'.

(2) However, Aristotle offers no hint that he cannot or will not treat certain subjects. On the contrary. He repeatedly states that the theory of the intellect is to be the subject of its own science and its own exposition, which concerns the reality which is not somatically characterized. He also says expressly that the *natural* philosopher cannot speak about the soul as a whole but only about one or more parts of the soul. If natural philosophy were to deal with all facets or parts of the soul, no other form of philosophy could exist besides natural science.² But Aristotle is adamant that natural philosophy is not all philosophy.

(3) This other, higher science is for Aristotle the science of immaterial substances, which he never refers to as 'metaphysics',³ but often as 'first philosophy',⁴ and also as 'theology'.⁵ Inasmuch as this discipline includes treatment of the intellect of living creatures such as

φανερὸν, ἀλλ' ἔοικε ψυχῆς γένος ἕτερον εἶναι, καὶ τοῦτο μόνον ἐνδέχεται χωρίζεσθαι. E. Barbotin translates here: 'un autre genre d'âme'. It cannot be accidental that Aristotle does not speak here about a 'part of the soul' but about a 'genus of soul'. This must be due to the fact that the soul *as soul* 'does not exist without body', whereas the intellect, as *actualized* intellect, is no longer part of the soul but has proceeded to a different kind of reality. H. Busche (2001) 68 with n. 130 takes a different stand: 'dasz der Verstand in "eine andere Gattung" fällt als der Begriff "Seele" '.

² *Part. anim.* I 1, 641a35: εἰ γὰρ περὶ πάσης, οὐδεμία λείπεται παρὰ τὴν φυσικὴν ἐπιστήμην φιλοσοφία. ὁ γὰρ νοῦς τῶν νοητῶν, ὥστε περὶ πάντων ἡ φυσικὴ γνῶσις ἂν εἴη. Cf. also *Anim.* I 1, 403b15-16. And when Aristotle states in I 2, 404b19 that he spoke ἐν τοῖς περὶ φιλοσοφίας λεγομένοις about the doctrine of soul in Plato's *Timaeus* in connection with Plato's doctrine of the 'last principles', it is clear that the work *On philosophy* dealt with philosophy as 'first philosophy'. This work thus combined psychology and theology and the theory of principles. So there is no reason to assume that such an exposition was 'popularizing' or 'intended only for the general public'. It is ironic, in the history of philosophy, that Aristotle, precisely through his new view of the soul-body, was probably responsible for the fact that immediately after his death his concept of a science which was more fundamental than physics was jettisoned.

³ Cf. L. Brisson, 'Un si long anonymat', J.M. Narbonne; L. Langlois (eds), *La Métaphysique. Son histoire, sa critique, ses enjeux* (Paris 1999) 37-60.

⁴ Cf. *Metaph.* E 1, 1026a26; 30; K 4, 1061b19.

⁵ Cf. *Metaph.* E 1, 1026a19; K 7, 1064b3.

(mortal) human beings, we will have to assume that 'theology' for Aristotle is not just the doctrine of God, but more generally the doctrine of (non-somatic) or hypercosmic reality.

(4) So it may well be that the doctrine of intellect was seen by Aristotle as part of the doctrine of (non-somatic) divine reality and that it was therefore discussed in his lecture treatise *Metaphysics*, particularly in book Lambda. This is suggested by the fact that, as far as we can tell, Theophrastus, Aristotle's direct pupil, did not use any other information in his critical discussion of Aristotle's doctrine of *nous* than we are familiar with from the treatises of the Corpus.⁶

(5) However, we should also mention the report in Proclus that the questions which remain open in *De anima* because it confines itself to natural philosophy were answered by Aristotle in his *dialogues*.⁷ Possible candidates here are his *Eudemus* or *On the soul* but also of course his *On philosophy* (if indeed this was a different dialogue). And if Aristotle viewed phenomena relating to the celestial beings and the soul as matters which can lead man to knowledge of God as the highest Origin,⁸ the dialogue *Eudemus* or *On the Soul* was possibly also referred to as part of the books *On philosophy*.⁹

I now want to examine whether we can move forward in the direction of a synthesis on the basis of the existing material in the Corpus and the remains of the lost dialogues. After all, our starting-point has changed radically compared with modern research. We have put forward new arguments to support the thesis already formulated by O. Gigon¹⁰ that the Corpus and the dialogues should not be sharply

⁶ Cf. E. Barbotin, *La théorie aristotélicienne de l'intellect d'après Théophraste* (Paris/Louvain 1954).

⁷ *Eudem.* fr. 4 Ross; 66 Gigon.

⁸ Cf. *Philos.* fr. 12a Ross; 14 Untersteiner; 947 Gigon and chap. 14 below.

⁹ Interestingly, *Anim.* I 2, 404b16-24 contains a reference not to the *Eudemus* or *On the soul* but to *On philosophy*, though the passage is concerned with the problem of soul and human knowledge. There is no explicit reference to the dialogue *Eudemus* in the extant work.

¹⁰ O. Gigon, *Aristotelis Opera*, vol. III 230. See also by the same author *Aristoteles, Vom Himmel, Von der Seele, Von der Dichtkunst* (Zürich 1950) 183-256, with the excellent postulate on p. 195: 'Wir werden ... der Psychologie des Aristoteles im allgemeinen und den Büchern über die Seele nur gerecht werden, wenn wir uns zuvor dem Eudemos zuwenden'. See also p. 218: 'Dass ... derselbe Aristoteles Doktrinen von zentralen philosophischen Bedeutung, wie diejenige von der Unsterblichkeit der Seele in seiner Jugend mit pathetischen Ernst verfochten und in seinem Alter mit subtilen Reflexionen verworfen hätte, halte ich für undenkbar. Dergleichen gibt es in moderner Philosophie und Literatur, nicht aber in der Antike'.

distinguished but treated as two different presentations of *the one Aristotelian philosophy*.

In attempting such a new synthesis of all the available information, we should perhaps start by underlining that Aristotle talks about 'gods' and 'divine' in two senses.¹¹ On the one hand he calls part of somatic, physical reality 'divine': the fifth element and the celestial beings consisting of it. This reality is divine and imperishable in the sense that it is everlasting, never ceases to exist. On the other hand Aristotle assumes a reality which is not somatic and is therefore superior to the fifth element and the celestial gods. This is the reality of the Transcendent First Unmoved Mover, the transcendent Intellect, whose activity is called 'life' but is not characterized by temporality. His eternity is not everlasting but supratemporal.¹² In Aristotle's discussion of the soul these two ways of speaking about 'divinity' and 'eternity' play a role and should be properly distinguished.

The immanent divine and the transcendent divine

In the first place the existence of all mortal living creatures depends on eternal divine reality in the sense that Aristotle designates the eternal divine celestial beings as the (secondary) cause of the generation of living, ensouled creatures. In *De generatione animalium* II 1 he expressly identifies 'the beautiful and the divine' as the cause of being and life of mortal living creatures and of the eternity of their kinds.¹³ The desire of all mortal living creatures, of plants, animals, and human beings, to pass on their own generic form to new living creatures of the same kind is a *natural* desire. Aristotle regards this as a result of the operation in all mortal living creatures of the creative, vitalizing power of the eternal, visible celestial beings. This is the background to his repeated remark: 'A man begets a man *and* the Sun / the ecliptic (begets man)'.¹⁴ Here we are dealing with visible

¹¹ As Plato had done in his *Timaeus*.

¹² Cf. A.P. Bos, *Cosmic and meta-cosmic theology in Aristotle's lost dialogues* (Leiden 1989) 83-96; Ital. ed. 168-187.

¹³ *Gener. anim.* II 1, 731b24-732a1. Cf. *Anim.* II 4, 415a26-415b7; *Gener. corr.* II 10, 336b30-34 and *Pl. Smp.* 207a-d. See also E. Barbotin (1954) 217-218.

¹⁴ *Phys.* II 2, 194b13; *Metaph.* A 5, 1071a13-16; *Gener. corr.* II 10, 336a31; b6; b17 and *Gener. anim.* II 4, 738a16-18. Aristotle probably connected the role of the ecliptic with vegetative life in particular, inasmuch as the vital potential of plant seeds is only actualized when the temperature of soil and atmosphere is suitable. But the mating season in the animal world, too, is directly linked to the Sun's cycle

and natural eternal reality as the *efficient cause* of all forms of life in the sublunary sphere. Aristotle undergirded this structural relationship by positing that ‘the *dynamis* of every soul seems to have something of a body different from and more divine than the so-called elements; and the differences in worth or unworth between souls correspond with the difference in this substance’.¹⁵ In chapter 8 above we saw that Aristotle assumes that the *dynamis* of souls not only of human beings but also of animals and plants has something of the heavenly, divine element, in order to explain the presence of vital heat as principle of life, which is enclosed in *pneuma* and is present by means of *pneuma* in sperm or in foam-like substances in which spontaneous generation takes place.¹⁶

In *De generatione animalium*, in which Aristotle also confines himself to considering vital phenomena from the perspective of natural philosophy, he therefore states that the *dynamis* of *all* souls of mortal living creatures has something of the astral element, in that the life-generating *pneuma* (or vital heat) is active in them as an analogue. He does not say that a part of the fifth element is present in every living creature. This would be structurally awkward, given the specific features of the fifth element described in *De caelo* I 2-3.¹⁷ But he does say that the so-called ‘vital heat’ in *pneuma* ‘has something of’ and is an analogue of the astral element. Just as the celestial element plays a mediating role between God in his transcendence and the sublunary sphere, so vital heat mediates in *pneuma* as an instrumental body between the soul and the visible body. Apparently Aristotle explained all functions of the soul which cannot take place ‘without body’ by relating them somehow to the astral element. This astral element is apparently a source of vital heat, ‘creative fire’, which is life-generating even from a distance.¹⁸

through the Zodiac. The study by K. Oehler, “Ein Mensch erzeugt einen Menschen”. Über den Missbrauch der Sprach-analyse in der Aristotelesforschung, id. *Antike Philosophie und byzantinisches Mittelalter* (München 1969) 95-145 is valuable for its analysis of the purport of the Aristotelian quote mentioned in the title. He rightly concludes: ‘Das Problem des organischen Lebens ist sehr wahrscheinlich für Aristoteles der zentrale Ausgangspunkt seines philosophischen Denkens gewesen’ (144). The role played by the celestial spheres is not brought out as clearly (136 with n. 46 and p. 141).

¹⁵ *Gener. anim.* II 3, 736b29-31; cf. *Eth. Nic.* VII 13, 1153b32: πάντα γὰρ φύσει ἔχει τι θεῖον.

¹⁶ *Gener. anim.* II 3, 736b33-737a1; III 11, 762a22-24.

¹⁷ Cf. P. Moraux (1963) 1206.

¹⁸ This was also, particularly in connection with the Sun, the express opinion of Plato in his *Resp.* VI 509b and later of the Stoics, who talked about ‘creative Fire’ as

This relation can well be compared with that of the begetter of a new living creature and this creature *in statu nascendi*. In *De generatione animalium* II 1 Aristotle argues that the male parent is the first cause of generation, but that he fades into the background as the cause of movement after copulation has taken place. It is then a matter of the *dynamis* of motion which is present in the embryo.¹⁹ And precisely in this connection Aristotle makes the comparison to the coiled power of motion in an automaton with a winding mechanism.²⁰

It is important to emphasize that Aristotle in this chapter makes an emphatic distinction, which even admits of a separation, between the begetter and the vital power which is operative in the sperm which he secretes. The same distinction has an eminent position in the theology of the work *On the cosmos*. Aristotle there underscores the crucial difference between God's essence (his *ousia*) and his Power (*Dynamis*). God is not essentially present throughout the cosmos, but his *dynamis* is (to a decreasing extent as the distance to the origin increases²¹). And in this connection the author of *On the cosmos* also uses the image of the automaton with a winding mechanism.²²

For Aristotle the embryo contains the essence of the begetter as a compressed potency (*dynamis*), which will reproduce the *eidos* of the begetter in the matter by means of the instrumental body as soon as the developmental process of this potency is set in motion.²³ In this sense sperm is the vehicle of the species or of the *logos spermatikos*.

Of the fifth element we will have to assume by analogy that it is the begetter of all life in the sublunary sphere, without itself being part of sublunary reality. In *De generatione animalium* I 2 Aristotle had already referred approvingly to the universal tradition of presenting the

the cause of all life in the cosmos.

¹⁹ *Gener. anim.* II 1, 734b22-735a4 and chap. 8 above.

²⁰ *Gener. anim.* II 1, 734b7-17.

²¹ Cf. *Mu.* 6, 397b13-30.

²² *Mu.* 6, 398b14-22. There are verbal similarities between *Mu.* 6, 398b20: τὴν δύναμιν εἰς τὰ συνεχῇ δίδωσι καὶ ἀπ' ἐκείνων πάλιν εἰς τὰ πορρωτέρω, μέχρις ἂν διὰ τοῦ παντός διεξέλθῃ· κινήθην γὰρ ἕτερον ὑφ' ἑτέρου καὶ αὐτὸ πάλιν ἐκίνησεν ἄλλο and *Gener. anim.* II 1, 734b9: ἐνδέχεται δὲ τότε μὲν τότε κινήσai, τότε δὲ τότε ... ὡς τὸ πρῶτον ὅταν τι κινήσῃ τῶν ἑξωθεν εὐθὺς τὸ ἐχόμενον γίγνεται ἐνεργεία. A further study of these texts and that of *Motu anim.* 7, 701b2-10 on automata is desirable, given the likelihood that 'replicatione quadam' in *Philos.* fr. 26 Ross; 25, 1 Gigon also refers to the unwinding of a winding mechanism.

²³ For an accurate analysis, cf. J.G. Lennox, 'Teleology, change, and Aristotle's theory of spontaneous generation', *J.H.Philos.* 20 (1982) 219-238, esp. 221-224.

heavens and the Sun as 'begetters' and 'fathers'.²⁴ Of these 'begetters', too, Aristotle will have assumed that they give life-generating power as *dynamis*,²⁵ which manifests itself in a variety of formal principles. It is this *dynamis* which makes a sublunary (elementary) body a vehicle of life. And Aristotle may then have explained the differences in quality of life by the differences in quality of the receiving natural body.

The astral dynamis brings about psychic vital activity

However, the power radiating from the astral spheres is a productive power. It leads to the generation of materially characterized living creatures throughout the sublunary sphere, either by spontaneous generation or by sexual reproduction. It therefore cannot achieve its effect without an instrumental body. The power emanating from the stars explains the generation and procreation in the sublunary sphere of living creatures with functions like nutrition, sensation, and locomotion, which are all aimed at the preservation and development of the living creatures and their kind. But all the living creatures thus produced are bound to somatic reality and aimed at somatic reality and in a certain sense prisoner to somatic reality. For these living creatures there is, in accordance with their biotic-psychic nature, only one reality, the somatic, and it is governed and led by the astral powers as absolute and implacable rulers. The astral powers collectively are the place where the specific forms of mortal living creatures originate.

However, because the astral gods, too, are living creatures of the highest order (but one), they are endowed with reason and intellectual powers. Their cognitive power could in fact be characterized as the *topos eidôn*, the location of the forms, by analogy with the way Aristotle in *De anima* III 4 refers to the intelligent soul as *topos eidôn*.²⁶ For the celestial beings the astral element is probably also the *sôma aisthêtikon*, just as for man *pneuma* is the *sôma aisthêtikon* in which the forms (*eidè*) of perceived objects are 'imprinted'. Now, as responsible

²⁴ *Gener. anim.* I 2, 716a15-17.

²⁵ Cf. Hermias, *Irr.* 2 (ed. R.P.C. Hanson, 1993), who reports that, according to some, the soul is a δύναντιν ἀπὸ τῶν ἀστρῶν ρέουσσαν.

²⁶ *Anim.* III 4, 429a27.

for producing all living creatures, the celestial beings have their own *ergon*, the task of which the realization is their *telos*. At the same time the celestial beings, in Aristotle's conception, are driven by *orexis* for a higher goal, namely the eternal divine reality of the transcendent Intellect.²⁷

In the sublunary sphere, if we follow the line of this argument, there is no knowledge, except for that aimed at survival and procreation, and certainly no *gnôsis* in the sense of self-consciousness, self-knowledge, or knowledge of a non-material reality. And yet for Aristotle this is the proper, most exalted knowledge.

The presence of intellect in the sublunary sphere

Hence he needs to explain how the sublunary sphere can be inhabited by creatures who not only participate in the divine power of the celestial beings and (via their species) in eternity, but who also take part in the divinity of a substance which is not a divine body. Aristotle often calls the function of *nous* in man 'divine' in the sense of the highest divinity (not bound to somatic reality). 'Of all living beings which we know, man alone participates in the divine, or at least more fully than the rest'²⁸. Here Aristotle does not speak about 'having something of' the astral element, but about 'participating in the divine'. Man is called 'a mortal god' because of his ability to intelligize and to act intelligently.²⁹ That is to say, man not only has the power to reproduce his own specific form but also to produce craft freely and to act, and even to reflect on the somatic reality of this production and action. Man's erect walk is connected with his power of intelligence and reflection, functions which are said to be 'the most divine' in *De partibus animalium*.³⁰ The intellect and that which by nature guides human life is called 'itself divine or the most

²⁷ *Metaph.* A 7, 1072a19-b12.

²⁸ *Part. anim.* II 10, 656a7-8: ἡ γὰρ μόνον μετέχει τοῦ θεοῦ τῶν ἡμῖν γνωρίμων ζώων, ἡ μάλιστα πάντων. In *Mem.* 1, 450a16 the transmitted text: εἰ δὲ τῶν νοητικῶν τι μορίων ἦν, οὐκ ἂν ὑπῆρχε πολλοῖς τῶν ἄλλων ζώων, ἴσως δ' οὐδενὶ τῶν θνητῶν draws a contrast which could be explained as a contrast between animals as entirely mortal and human beings as not entirely mortal thanks to their potentiality for intellectual activity.

²⁹ *Cic. Fin.* II 12, 40: hominem ad duas res, ut ait Aristoteles, ad intelligendum et agendum esse natum, quasi mortalem deum.

³⁰ *Part. anim.* IV 10, 686a27-31: ἔργον δὲ τοῦ θειοτάτου τὸ νοεῖν καὶ φρονεῖν.

divine element in us'.³¹ There are several other passages with the same purport.³²

I also mention here the passage in *De generatione animalium* II 3, which seems corrupt in the form handed down to us, but which even in its current state suggests that it pertains to crucial matters in Aristotle's philosophy.³³ When Aristotle speaks there about 'those in whose constitutive principle something divine is included', we must conclude that Aristotle is not referring to *all* living creatures, though *all* living creatures are connected with a 'divine body' through their soul-principle,³⁴ but to a limited group.

So in any case we shall have to distinguish for the time being between, on the one hand, 'the *pneuma* which is enclosed in sperm and the foam-like and the nature of *pneuma*, which is analogous to the astral element',³⁵ and, on the other, 'something divine that is included ('implied') in some living creatures' mentioned in 737a9. The extant text also says of the latter that 'the so-called intellect is of such a kind'.³⁶ But also that it is 'separate from *sôma*'.³⁷

The intellect that comes 'from outside'

The surviving text thus confronts us with a major problem: it seems to state that the psychic principle is transferred via the *sôma* of the male sperm, but it also says that this applies both to the part of the soul-principle which is not bound to *sôma* and to that which cannot exist separately from *sôma*. And this problem is all the more urgent because Aristotle has just said in the same chapter that it is necessary to conclude that 'the intellect is alone in entering [the living creature, man] *from outside* (*thyrathen*) and being divine'.³⁸

³¹ *Eth. Nic.* X 7, 1177a15-16: εἴτε θεῖον ὄν καὶ αὐτὸ εἴτε τῶν ἐν ἡμῖν τὸ θεϊότατον. Cf. 1177b26-28; 1177b30-1178a2.

³² Cf. E. Barbotin (1954) 222ff. *Metaph.* Λ 7, 1072b22-24; *Anim.* I 4, 408b29.

³³ *Gener. anim.* II 3, 737a7-11: Τὸ δὲ τῆς γονῆς σῶμα, ἐν ᾧ συναπέρχεται † τὸ σπέρμα † τὸ τῆς ψυχικῆς ἀρχῆς, τὸ μὲν χωριστὸν ὄν σώματος ὅσοις ἐμπεριλαμβάνεται τι θεῖον (τοιούτος δ' ἐστὶν ὁ καλούμενος νοῦς) τὸ δ' ἀχώριστον,—τοῦτο τὸ σῶμα τῆς γονῆς διαλύεται...

³⁴ *Gener. anim.* II 3, 736b29-31.

³⁵ *Gener. anim.* II 3, 736b35-737a1.

³⁶ *Gener. Anim.* II 3, 737a10.

³⁷ *Gener. anim.* II 3, 737a9.

³⁸ *Gener. anim.* II 3, 736b27-29: λείπεται δὴ τὸν νοῦν μόνον θύραθεν ἐπεισιέναι καὶ θεῖον εἶναι μόνον· οὐθὲν γὰρ αὐτοῦ τῇ ἐνεργείᾳ κοινωνεῖ (ἢ) σωματικῇ ἐνέργειᾳ. Note that the fact that the intellect is not connected with a somatic activity, and

P. Moraux, who tackled this problem in a lengthy article, tried to solve it by proposing that the option that 'the intellect enters man from outside' was considered by Aristotle only as a dialectical possibility, but then rejected in his conclusion of 737a7-11.³⁹ It is not the first time in his career that Moraux has 'solved' problems by brushing them aside. In my view, this solution is contrived and fails to do justice to various facets of Aristotle's philosophy. I am thinking here of his discussion in *De anima* III 4-5, where the *nous*-in-potency is actualized by a *nous*-in-act; of the passages in which he points out that *nous* does not develop in all human beings,⁴⁰ and if it does, only with the advance of years;⁴¹ and of texts in which Aristotle makes it clear that an intellectual grasp of the universal and finally of 'the first causes' only takes place after a long time, in the course of a long cultural development, but on the basis of perception and empirical knowledge.⁴²

We must consider that Aristotle taught two things. One, the presence of soul as the first entelechy of animals and human beings does not mean that the sensitive and motor functions, though they cannot operate without body, are already present in act. Second, the presence of soul as the first entelechy of man, whose soul-principle includes something divine, namely an intellect, does not mean that the *nous* is already present in act. It may be, and is indeed very likely, that Aristotle viewed the last as being a matter of 'development' which occurs only through contact with the divine Intellect and after

does not have (or need) an 'instrument'—cf. *Anim.* III 4, 429a26—implies that ἐπειστέναι cannot possibly be interpreted as locomotion (because locomotion can only be the motion of a *sōma*). For the actualization of the intellect-in-potency Aristotle constantly uses metaphors like 'touching', 'enlightening'. See *Metaph.* A 7, 1072b21; Θ 10, 1051b23-26; A 7, 988a23; b18; 5, 986b23; *Anim.* I 3, 407a15-17; III 5, 430a14-15; *Phys.* I 9, 191b35. Cf. *Plu. De Is. et Osir.* 382D-E = *Arist. Eudem.* fr. 10 Ross; 1012 Gigon.

³⁹ P. Moraux, 'À propos du νοῦς θύραθεν chez Aristote', *Autour d'Aristote. Recueil ... offert à A. Mansion* (Louvain 1955) 255-295. An important aspect of Moraux's discussion is that he dates *Gener. anim.* after *De anima* and therefore views *Anim.* III 4-5 as a position which is superseded and rejected in *Gener. anim.* J.M. Rist, *The mind of Aristotle* 308 n. 28 regards Moraux's solution as 'unconvincing and unnecessary'. On this question, see also A. Preus (1970) 32ff.

⁴⁰ *Anim.* I 2, 404b5: οὐ φαίνεται δ' ὅ γε κατὰ φρόνησιν λεγόμενος νοῦς πᾶσιν ὁμοίως ὑπάρχειν τοῖς ζώοις, ἀλλ' οὐδὲ τοῖς ἀνθρώποις πᾶσιν.

⁴¹ Cf. *Pol.* VII 15, 1334b22-25.

⁴² *Metaph.* A 1-2. See also *Sens.* 1, 436b18-437a3: αἱ δὲ διὰ τῶν ἔξωθεν αἰσθήσεις ... πολλὰς ... εἰσαγγέλλουσι διαφοράς, ἐξ ὧν ἡ τε τῶν νοητῶν ἐγγίνεται φρόνησις καὶ ἡ τῶν πρακτῶν. Cf. *Anal. Post.* II 19.

'liberation' from a number of obstructive factors. Man is 'aimed' at this development from birth. Indeed, there is in man a 'natural *orexis* for knowledge'.⁴³ If we are to interpret the famous opening sentence of the *Metaphysics* in accordance with what Aristotle says about *orexis* in *De motu animalium* 10 and *De anima* III 10, this means, again, that he even assigned a somatic basis to knowledge of the ultimate principles. But achieving this goal is not for man a 'natural development' of the same (natural) order as the development of the soul's sensitive and motor functions.

However, the following is crucial to Aristotle's discussions. In *De anima* II 1 he developed his view that the *parts* of the soul are not separate from the *sôma organikon* of which the soul is the entelechy, including those parts of the soul which are not manifest in the first vital phase of the living creature in question. And he also used this position to argue that the transfer of the soul has a somatic basis, even for the soul which has the potency for intellectual activity, though no instrumental body is structurally necessary for this intellectual activity.

Cicero on the 'quinta essentia'

There is another piece of information we need to look at in this connection. Cicero has two very explicit statements on Aristotle's lost work in which he refers to typically human capabilities such as 'thinking, foreseeing, learning and teaching, discovering, remembering, loving, hating, desiring, fearing, being angry, and being happy' as divine functions which are inexplicable on the basis of the four sublunary elements. For this reason, says Cicero, Aristotle presented the human mind as *consisting of* the fifth element.⁴⁴ So the focus here is not on the soul as a formative and productive principle but on all the human functions in which the mind (*dianoia*) is essential or plays a role. And Cicero does not say 'having something of' the astral element but 'consisting of' the fifth element.

Perhaps, in order to solve this, we should take a closer look at the text of *De generatione animalium* II 3. This text says first that 'the only remaining conclusion is that the intellect is alone in entering from

⁴³ *Metaph.* A 1, 980a20: Πάντες ἄνθρωποι τοῦ εἰδέναι ὀρέγονται φύσει.

⁴⁴ *Philos. fr.* 27b Ross; 994 Gigon; 27d Ross; 996 Gigon.

outside and being divine. For (the) somatic activity has no connection with its activity (i.e. of the intellect)'.⁴⁵ The text immediately continues: 'But it is true that the *dynamis* of every soul seems to have something of a body which is different from and more divine than the so-called elements; and the differences in worth or unworth between souls correspond with the differences in this substance'.⁴⁶

Reflecting on these two propositions, we can establish that the somatic activity of the divine celestial beings as such also differs structurally from their intellectual activity. But the divine celestial beings *are* endowed with intellect and reason, if in a different manner from the transcendent Intellect.⁴⁷ We must assume of these divine celestial beings, too, that their intellectuality needs to be actualized by an effect 'from outside'. In Aristotle's system it seems not a later addition but a structural necessity that the celestial gods also have an entelechy principle as an unmoved mover outside of themselves.⁴⁸

As intellectual beings the celestial beings are perfectly knowing beings engaged in *theôria*. As somatic beings they are engaged in action and production. The dialectic between *theôria* and *praxis*,⁴⁹ typical in Plato of the highest divine beings, is attributed by Aristotle to gods of the second level, i.e. the cosmic gods.

On the other hand, when Aristotle immediately goes on to say that the *dynamis* of every soul has something of the astral body, this necessarily means that living beings in the sublunary sphere derive from it their productive and motor functions, which are somatic. But when he speaks here about 'the *dynamis* of every soul', does this imply the 'noetic soul'⁵⁰ as well?

If so, we might suspect that Aristotle saw the relation of *nous* to the fifth element as analogous to the relation of the soul-principle to the instrumental body and thus presented *nous* as the entelechy of the

⁴⁵ *Gener. anim.* II 3, 736b27-29.

⁴⁶ *Gener. anim.* II 3, 736b29-33.

⁴⁷ Ps.-Plu. *Plac.* II 3 reports that, according to Aristotle, the celestial beings partake of *logos*, *nous*, and *pronoia*, but not the cosmos as a whole: τὰ μὲν γὰρ οὐράνια τούτων πάντων κοινωνεῖν. Aristotle seems to have postulated a phased *koinônia* the supralunary sphere 'has something' of the Transcendent; the sublunary sphere 'has something' of the astral element.

⁴⁸ Cf. *Metaph.* A 8.

⁴⁹ Cf. E. Kapp, 'Theorie und Praxis bei Aristoteles und Platon', *Mnemosyne* 3. 6 (1938) 178-191 and A.W.H. Adkins, 'Theoria versus praxis in the Nicomachean Ethics and the Republic', *Class. Philol.* 73 (1978) 297-313. Cf. A.P. Bos, *Cosmic and meta-cosmic theology* 65-70; Ital. ed 142-150.

⁵⁰ Cf. *Gener. anim.* II 3, 736b14.

astral element which forms its instrumental body. Being characterized by their astral bodies would therefore entail a form of potentiality for the astral beings as well, viz. potentiality for intellectuality. But in that case the intellect is the entelechy of the astral *sôma* in the same way that a sailor is the entelechy of his ship.⁵¹

Aristotle seems to have used the metaphor of a contrast between the conditions of 'sleeping' and 'waking', which he employed with such surprising creativity for his new view of the reality of 'soul',⁵² on a higher level as well. He argued that the presence of 'intellect' in human (and astral) souls entailed a condition of 'sleeping' and 'waking' for them too, in contrast to the divine Intellect, which is always 'awake' and 'in act'.

As World Archons the astral beings participate in *praxis* and not in *theôria*.⁵³ But like Plato's archons in human society, they have the potential to wake up from their 'sleep' of *praxis* and achieve the perfect wakefulness of *theôria*. For them, too, the soul is 'the first entelechy of an instrumental natural body' in the sense that this state can be compared with a state of 'sleep' and the realization of their potential for intellectuality is 'the second entelechy'. Fitting in with this is the motif of a periodicity⁵⁴ in the condition of the World Soul and talk about the alternation of a 'golden age' and an 'iron age'⁵⁵ and with the motif of a 'sleeping World Soul' which must be wakened. Another connection is found in the theme of a god Kronos who is bound with the 'bonds of sleep',⁵⁶ situated on the 'Isles of the

⁵¹ Cf. *Anim.* II 1, 413a8-9 and chap. 6 above.

⁵² *Anim.* II 1, 412a23-24: ἐν γὰρ τῷ ὑπάρχειν τὴν ψυχὴν καὶ ὕπνος καὶ ἐγρήγορσις ἐστίν.

⁵³ This is a distinction in Aristotle's philosophy which had far-reaching consequences for the theology of all early Gnostic conceptions, which always figure World Archons or Rulers whose lack of *gnôsis* makes them arrogant.

⁵⁴ For the notion of cosmic cycles in Aristotle, cf. *Meteor.* I 3, 339b19-30; 14, 352a29 ff.; *Cael.* I 3, 270b16-20; *Pol.* VII 10, 1329b25; *Metaph.* Λ 8, 1074b1-14. Contra K. Alt, *Weltflucht und Weltbejahung. Zur Frage des Dualismus bei Plutarch, Numenios, Plotin* (Stuttgart 1993) 15 it must be argued that the factor of time does play a role in Aristotle. For Aristotle the essence of *Physis* is characterized by 'development', 'desire', 'movement', dynamics. This is not a later Gnostic contribution. The Gnostics went on building on an Aristotelian innovation here.

⁵⁵ Cf. esp. Pl. *Plt.* 268d ff. with 269d9: (κόσμος) κεκοινώνηκέ γε καὶ σώματος· ὅθεν αὐτῷ μεταβολῆς ἀμοίρῳ γίγνεσθαι διὰ παντὸς ἀδύνατον.

⁵⁶ Tert. *Anim.* 46, 10. Cf. Plu. *Facie*, 941F-942A; *Corp. Herm.* X 5 and J.H. Waszink, 'Traces of Aristotle's lost dialogues in Tertullian', *Vigil. Christ.* 1 (1947) 137-149; id. 'The dreaming Kronos in the Corpus Hermeticum', in *Mélanges H. Grégoire* (Bruxelles 1950) 639-651; O. Gigon (1950) 199-200 and A.P. Bos, *Cosmic and meta-cosmic theology* 83-96; Ital. ed. 168-187. Only in such a context can we understand why some Gnostics could speak about 'liberation from the bond which the soul

Blessed', i.e. the abode of beings unhindered by the 'mortal chains' of an earthly body.

Sublunary man, as the creature who participates most 'purely' in the astral element, must have been interpreted by Aristotle as a creature with a 'double nature', a creature 'on the borderline', able to move on both sides of the border. As a vital creature endowed with sense and capable of motion he takes part in the somatic side of the astral beings. But when man frees himself from the restrictions of natural necessity, he can work his way up to the situation of the beings 'on the Isles of the Blessed'. In this condition he can also develop his potential for true divinity and arrive at perfect intellectuality.

As such man can be compared with 'a sailor in his ship'. Man's soul is the only soul of sublunary living creatures which is capable of leaving its instrumental body behind and attaining to intellectual activity which has no connection with somatic activity.

forms'. Cf. Iren. *Haer.* I 21, 5: αὐτὸν δὲ πορευθῆναι εἰς τὰ ἴδια, ῥίψαντα τὸν δεσμὸν αὐτοῦ, τουτέστιν (τὴν) ψυχὴν.

CHAPTER TWELVE

ARISTOTLE'S LOST WORKS: THE CONSEQUENCES OF REINTERPRETING THE PSYCHOLOGY OF *DE ANIMA*

The need to reconsider the problem of the lost works

What are the consequences of a review of Aristotle's psychology, as set out in the foregoing, for our knowledge of the philosophical conception which Aristotle framed in the works which existed in Antiquity but are now lost? Clearly, these consequences may be far-reaching for our view of the date of these lost works, for the amount of information about them, and for our insight into the relation of these lost works to what has survived and into a possible development in Aristotle's thought.

In chapter 1 I noted and in chapter 2 I explained more fully that for Jaeger and Nuyens the supposed difference in philosophical conception between the dialogue *Eudemus* and the treatise *De anima* formed the bedrock on which they based their construction of a chronology of Aristotle's writings and a development in his thought. Because they interpreted the psychology of *De anima* as hylomorphic in the standard sense and because the information about the *Eudemus* could not be fitted into this framework, they assumed a drastic change of position for Aristotle. And convinced that *De anima* was a product of Aristotle's teaching in the Peripatos dating after 336 BC, they assumed that the *Eudemus* represented an earlier position which was closer to Plato. If we have to conclude that the starting-point of Jaeger and Nuyens was unsound, in that they wrongly interpreted *De anima* as hylomorphic in the standard sense instead of as 'cybernetic-instrumentalist', as I would prefer to call it, the review must be extended to the material which has been connected with Aristotle's lost works.

The first question is whether, after revising the interpretation of *De anima*, we still have sound reasons for assuming that the position of (some of) the lost works differed from *De anima*, or whether the information about these lost works supports a new interpretation of *De anima*. If so, there may be no basis for a chronological phasing of Aristotle's works based on differences in psychological conception.

Second, we have to examine whether the texts associated with Aristotle's lost works have been identified as such on solid grounds. It may be that some reactions to Aristotle's psychology, though deviating from the standard interpretation of *De anima*, may still go back to *De anima* if they can be seen to follow on from the view which I have reconstructed for *De anima*. Obviously, all texts which attribute to Aristotle a form of 'instrumentalist' psychology are automatically linked by twentieth-century scholars to a developmental phase antedating *De anima*. But if *De anima*, too, should be interpreted as an example of (cybernetic) instrumentalist psychology, this line of reasoning is no longer sound.

This is particularly relevant to the large collection of passages in Iamblichus' *Protrepticus* which are usually included as witnesses to Aristotle's lost work the *Protrepticus*. An important aspect of these texts is that they interpret man's visible body as the instrument of the soul. However, Iamblichus, who lived from approximately AD 240 to 325, occupies a special position among the commentators on Aristotle's *De anima*. He interpreted the position of *De anima* in this very special, instrumentalist sense.¹ The instrumentalism which Iamblichus reads into Aristotle's *De anima* is *not* identical with the cybernetic instrumentalist psychology which I believe can be reconstructed from the text of *De anima* itself. Though no commentary by Iamblichus on Aristotle's *De anima* survives, while it is even disputed whether he wrote a (complete) commentary,² much is known about his position.³ In the commentary traditionally attributed to Simplicius the author mentions that he will follow Iamblichus in elucidating difficult passages in Aristotle's text.

Starting from his information, we can conclude that Iamblichus interpreted the soul of human beings and animals as relating to the visible body in the same way that a user relates to his instrument (*organon*). Iamblichus holds that the soul can exist independently of and separately from the visible body. Part of this soul is a fine-material, 'immaterial' (*ahylos*) 'vehicle', which mediates for the soul, when it has descended into a visible body, the interaction between

¹ Further study is required to ascertain whether the instrumentalist psychology of Ps.-Pl. *Alcibiades* was an important factor in Iamblichus.

² Cf. H.J. Blumenthal, 'Did Iamblichus write a commentary on the *De anima*?', *Hermes* 102 (1974) 540-556.

³ Cf. C. Steel, *The changing self. A study on the soul in later neoplatonism. Iamblichus, Damascius and Priscianus* (Brussel 1978).

the soul and the visible body. But when Iamblichus talks about the contrast between 'soul' and 'body', he is always referring to the *visible* body.

This means that Iamblichus corrected Aristotle's position in *De anima*—as I interpret it—on three points:

(1) he did not characterize the soul's covering as a (natural) body in the proper sense;

(2) he did not present the fine-material body as the instrument (*organon*) of the soul, but the visible body;⁴

(3) he sharply distinguished the animal and rational soul from the nutritive soul and thus confines 'life' almost always to animal and human life.⁵

Since Iamblichus did this demonstrably for the conception of *De anima*, it is likely that he did the same with texts of other writings by Aristotle if they were available to him. The fact that Düring's edition of Aristotle's *Protrepticus* fails to address this issue robs the entire work of a solid foundation. An instrumentalist view presented as Aristotelian in Iamblichus may well result from his correction of the conception of *De anima*. And this instrumentalism, to the extent that it is not a correct representation of *De anima*, is far from being evidence of a correct representation of a different phase in Aristotle's psychology. As long as the grounds for attribution to Aristotle's *Protrepticus* are not more convincing than simply the presence of a form of instrumentalist psychology, we do well to follow W.G. Rabinowitz in his extremely sceptical attitude to texts from Iamblichus which modern scholars assign to Aristotle's *Protrepticus*.⁶ His conclusion is: 'The conditions which underlie all ... attempts to reconstruct the *Protrepticus*, ..., may now be stated to be unreal. The hypothesis that Cicero used the *Protrepticus* in composing the *Hortensius* ... must be regarded as erroneous. ... The corollary assumption that Iamblichus drew extensively on the Aristotelian exhortation for the construction of chapters 5 through 12 of his own *Protrepticus* (34, 5-61, 4 Pistelli) must similarly be rejected'.⁷

He adds: 'No one has yet proved: (1) that the Aristotelian elements in the "excerpt" [i.e. from Iamblichus – APB] do not comport

⁴ Cf. Simpl. *In De an.* 23, 22-23 (ed. M. Hayduck).

⁵ The passages of Iamblichus' *Protrepticus* which are usually connected with Aristotle's *Protrepticus* do not deal with vegetative life either.

⁶ W.G. Rabinowitz, *Aristotle's Protrepticus and the sources of its reconstruction* (Berkeley 1957).

⁷ W.G. Rabinowitz (1957) 93-94.

with and cannot be derivable from what Aristotle says in his *treatises*; (2) that there is some evidence in the "excerpt", ... to confirm the alleged use of a single Aristotelian writing; (3) that the indisputably genuine fragments of the *Protrepticus* are extensive enough in scope and number to provide an adequate *comparandum* against which to measure and assess the contents of the "excerpt"; (4) that Iamblichus' own testimony in the preface to his *Protrepticus* (that he will use arguments taken from πάσης φιλοσοφίας in order to construct the arguments of the middle section of his work, ... is not to be taken at face value; and (5) that Iamblichus is incapable of using a variety of sources in a wide variety of ways'.⁸

The many contradictions between numerous studies of Aristotle's *Protrepticus* do not suggest that the situation since the publication of Rabinowitz's work has greatly improved.⁹

Iamblichus' Protrepticus and Aristotle's Protrepticus

For those who are more than casually involved in studying Greek philosophy in general and the work of Aristotle in particular, it is interesting to compare the scientific debate in the twentieth century over Aristotle's lost *Protrepticus* with that over *De mundo*, a work which survives but of which Aristotle's authorship is widely disputed. Though the text of *De mundo* shows many similarities to what we know from the complete extant text of Aristotle's acknowledged works and with information which can be reliably connected with the author's lost writings, a large majority of modern scholars continues to reject Aristotle's authorship, which was disputed in the 19th century on the basis of arguments now abandoned. By contrast, many texts are attributed without critical reservations to Aristotle's *Protrepticus*, texts in which Aristotle's name is not mentioned while the probability that they are in any way connected with Aristotle is slight. We are dealing here with a classic example of blind faith in authority.

We can look at this same question from another angle as well. On the strength of the text of Iamblichus' *Protrepticus*, scholars have

⁸ W.G. Rabinowitz (1957) 94.

⁹ Cf. J.D. Monan, 'La connaissance morale dans le *Protreptique* d'Aristote', *R.Ph.L.* 58 (1960) 186, who talks about 'la multitude d'interprétations contradictoires que l'on donne actuellement du *Protreptique*'.

widely attributed to Aristotle's *Protrepticus* a psychology of incorporeal soul which uses the visible body as its instrument, though Iamblichus does not mention the name of Aristotle anywhere. On the other hand, texts in Cicero about a '*quinta essentia*' as substance of the soul which are emphatically and repeatedly attributed to Aristotle are denied to him by A. Mansion, P. Moraux, S. Mansion, D.E. Hahm, and many others. But without the obstacle formed by Iamblichus' texts, a breakthrough could have been achieved on the strength of the information about the *Eudemus* and the texts of Cicero. This could have led to the insight that Aristotle's lost works, too, like *De anima*, presented the soul as an *eidos* of a special, instrumental soul-body.

The Swedish scholar I. Düring put a great deal of energy into studying all the issues involved in the reconstruction of Aristotle's *Protrepticus*. He also compiled the standard edition of the relevant texts.¹⁰ He starts his study with the words: 'What we actually know about Aristotle's *Protrepticus* is said in a few words'.¹¹ But he believes that this slight knowledge can be importantly enlarged by accepting a passage of some 6400 words in Iamblichus' *Protrepticus*¹² as a fragment of Aristotle's *Protrepticus*. In his view, it is too narrow to assign only those texts to Aristotle's *Protrepticus* in which the name of the philosopher and the title of the work are explicitly mentioned. On this method little would be left of the fragments of the pre-Socratics too. However, in order to justify his own broad policy of admission, Düring has to minimize Iamblichus' role in the composition of his own work to that of compiler lacking any form of originality.¹³ Only in some places where he is not quoting literally does Iamblichus use language of his own time.¹⁴ Furthermore Düring is forced to assume

¹⁰ I. Düring, *Aristotle's Protrepticus. An attempt at reconstruction* (Göteborg 1961). See also *Aristotle, Protrepticus. A reconstruction* by A.H. Chroust (Notre Dame 1964); *Esortazione alla filosofia di Aristotele*, introd., trad. e comm. di E. Berti (Padova 1967); *Der Protreptikos des Aristoteles*, Einl., Übers. und Komm. von I. Düring (Frankfurt a. M. 1969; ²1993); *Aristoteles, Lof van de wijsbegeerte*, vertaald, ingeleid en van aantekeningen voorzien door C. Verhoeven (Groningen 1998). E. Berti, *La filosofia del <<primo>> Aristotele* (New edition, Milano 1997) 32-35 still accepts the authority of I. Düring. See also R.A. Gauthier, J.Y. Jolif, 2nd ed. (Louvain 1970), vol. I 13-16.

¹¹ I. Düring (1961) 11.

¹² I. Düring (1961) 17.

¹³ I. Düring (1961) 18; 24-26. C. Verhoeven, *Aristoteles, Lof van de wijsbegeerte* 11 also states: 'Iamblichus used Aristotle's *Protrepticus* as a model, so that Aristotle's lost text can be largely reconstructed on the basis of Iamblichus' *Protrepticus*', though he goes on to qualify this position in some respects'.

¹⁴ I. Düring (1961) 27.

that Iamblichus uses only one work by Aristotle,¹⁵ whereas he uses protreptic passages in Plato from a variety of dialogues. And in fact various passages which Düring assigns to Aristotle's *Protrepticus* have been plausibly attributed by other authors to the *Eudemus*.¹⁶ The *Eudemus* or *On the soul* can also with certainty be said to have had a strongly protreptic bias.¹⁷

Düring's assertion: 'a simple hypothesis which explains the facts at issue is preferable to a complicated one,'¹⁸ is attractive at first sight. But the reality of studying original source material also provides examples of cases in which a 'simple hypothesis' does not do justice to the historical situation. In my view, Düring's entire enterprise fails on the absence of sound evidence for (a) the existence of two separate works entitled *Protrepticus* and *Eudemus* or *On the soul*, one of which was supposedly dedicated to Themison, king of an unknown city on the island of Cyprus, while the title role in the other work was played by Eudemus, who also came from Cyprus; for (b) the origin of large parts of Iamblichus' *Protrepticus* in Aristotle's *Protrepticus* and for (c) the assumption that Iamblichus quoted almost literally from the *Protrepticus* and did not paraphrase passages from random Aristotelian works.

O. Gigon, in his new edition of fragments from Aristotle's works, is therefore right not to include the entire text of Iamblichus' *Protrepticus*, which seems to have an Aristotelian colouring, as deriving from Aristotle's *Protrepticus*, but to place them under the heading 'Protreptic themes derived from various dialogues'.¹⁹ The heart of the problem here is that these texts can only be called 'Aristotelian' because

¹⁵ I. Düring (1961) 28 posits: 'We do not know any work by Aristotle with an outspoken protreptic character, except the *Protrepticus*' and 'It is not at all likely that Iamblichus ... had access to a number of Aristotelian works of protreptic character unknown to us'. But access to both *De philosophia* and the *Eudemus* is highly probable, and both of these were most certainly protreptic in nature. And Düring's thesis boomerangs on its author as soon as it can be persuasively argued that one part of Iamblichus' argument derives from the *Eudemus*.

¹⁶ Cf. J. Brunschwig, 'Aristote et les pirates Tyrrhéniens (À propos des fragments 60 Rose du *Protreptique*', *Rev. philos. de la France* 88 (1963) 171-190, esp. 185-189; H. Flashar, 'Platon und Aristoteles im Protreptikos des Iamblichos', *A.G.Ph.* 47 (1965) 53-79; H.J. Drossaart Lulofs, *De ogen van Lynceus* (Leiden 1967) and chap. 16 below.

¹⁷ Cf. A.P. Bos, 'Aristotle's *Eudemus* and *Protrepticus*: are they really two different works?', *Dionysius* 8 (1984) 19-51.

¹⁸ I. Düring (1961) 28.

¹⁹ O. Gigon (1987) no. 73. It would have been even better to leave out all these passages from the collection proper of fragments and testimonies.

they agree with Aristotelian views familiar from the Aristotelian Corpus and as such might suggest that they are free revisions of such passages. And if they differ from the views known from the Corpus, it is not certain that these divergent views are soundly Aristotelian.

The problem of the discussion about Aristotle's *Protrepticus* is perhaps best demonstrated by looking at the passage of Iamblichus' *Protrepticus* which W.D. Ross includes as fragment²⁰ 6 and Düring as B 59-60:

One part of us is soul, the other body, and one rules, the other is ruled; the one uses, and the other is present as its instrument (*organon*). And the usefulness of what is ruled and of the instrument (*organon*) is always directed to that which rules and uses it.²¹

And of the soul one part is reason (*logos*), which by nature rules over and judges everything that concerns us; and the other part follows its governance and allows itself to be ruled. And every part is in good condition when it functions in perfect order. For this is the ideal (*agathon*) to be realized.

This text, which could, it was believed, be attributed to Aristotle, presents an instrumentalist view of the relation between soul and (visible) human body, and scholars therefore inferred the existence of a psychology in a lost work by Aristotle that could not be the same as the *Eudemus*, which was interpreted Platonistically. Also this view was to be clearly distinguished from the conception of *De anima*, which was taken to be hylomorphic in the traditional sense.

However, the view which Iamblichus offers here is the one which he reads into Aristotle's *De anima*. It is impossible to establish with certainty on the strength of Iamblichus' reports here:

(a) whether he has in fact followed a lost work by Aristotle, or simply gives his own reading of *De anima*; and

(b) whether this lost work indeed held a different psychology from *De anima*, or whether Iamblichus revised the view of this lost work, if perhaps it was the same as that of *De anima* and also talked about an instrumental body of the soul, in the same way as that of *De anima*.

In my view, the only sound scientific procedure is to apply Occam's razor and remove Nuyens' hypothesis of two different psychologies in

²⁰ I will use this term and the abbreviation 'fr.' without constantly noting that most cases do not involve literal fragments of a lost text (by Aristotle) but 'traces' of these in works by later authors. Cf. J. Pépin, *Théologie cosmique* 8.

²¹ Iambl. *Protr.* 7 (41, 15 Pistelli): ἔτι τοίνυν τὸ μὲν ἐστὶ ψυχὴ τῶν ἐν ἡμῖν τὸ δὲ σῶμα, καὶ τὸ μὲν ἄρχει τὸ δὲ ἄρχεται, καὶ τὸ μὲν χρήται τὸ δ' ὑπόκειται ὡς ὄργανον. ἄνθρωπος τοίνυν πρὸς τὸ ἄρχον καὶ τὸ χρώμενον συντάσσεται ἢ τοῦ ἀρχομένου καὶ τοῦ ὁργάνου χρεία.

Aristotle's lost work, until we have established on a new basis what hard information there is which would force us to reintroduce this hypothesis.²²

²² G.A. Blair, *Energieia and entelecheia. 'Act' in Aristotle* (Ottawa 1992) 20 in connection with Arist. *Protr.* fr. 14 Ross was still able to assert with conviction: 'There really is not any doubt that the passage below belongs to Aristotle's earliest attempts at philosophy'. See also S. Menn, 'The origins of Aristotle's concept of 'Ενέργεια', *Anc. philos.* 14 (1994) 73-114, p. 78

CHAPTER THIRTEEN

THE INFORMATION ON ARISTOTLE'S *EUEMUS*

The life of Eudemus of Cyprus

The starting-point for a discussion of Aristotle's *Eudemus*¹ must be the text which tells the plot of the story about the fortunes of Eudemus of Cyprus, the friend (*familiaris*)² of Aristotle. It is known to us exclusively from a report in Cicero's work *On divination*. This text is crucial to the interpretation of Aristotle's intentions in this dialogue.

Cicero, *De divinatione* I 25, 53.

(= Aristotle, *Eudemus* fr. 1 Ross; 56 Gigon)

And furthermore. Is Aristotle, a man of excellent and almost divine perspicuity, in error or does he wish to lead his readers into error when he writes that Eudemus of Cyprus, a friend, on his way to Macedonia once arrived in Pherae, which was then a rather considerable town in Thessaly, but cruelly dominated by the tyrant Alexander? In this town Eudemus fell so gravely ill that all the doctors feared for his life. During a deep sleep there appeared to him a handsome young man, who told him that he would recover very soon, that within a few days the tyrant Alexander would die, and that he himself would return home in the fifth year thereafter. The first two predictions proved exactly correct, writes Aristotle: Eudemus in fact recovered and the tyrant was killed by his wife's brothers. But when the fifth year came to an end and he was expected to return to Cyprus from Sicily, as the dream had said, he died fighting for Syracuse.³ Consequently, the dream was explained in the sense that when the soul of Eudemus had left his body, it had returned 'home'.

¹ Cf. O. Gigon, *Aristoteles, Vom Himmel, Von der Seele, Von der Dichtkunst* (Zürich 1950) 183-265; 'Prolegomena to an edition of the *Eudemus*', I. Düring, G.E.L. Owen (eds), *Aristotle and Plato in the mid-fourth century* (Göteborg 1960) 19-33. Gigon concludes his article by saying: 'What we need today is an interpretation that considers the dialogue *Eudemus* in its historical and philosophical context and studies its influence on later literature'.

² Cf. W. Spoerri, 'Prosopografica', *Mus. Helv.* 23 (1966) 46; K. Gaiser, 'Die Elegie des Aristoteles an Eudemos', *Mus. Helv.* 23 (1966) 93 with n. 27.

³ In 353 BC, in an attempt to overthrow the reign of Dionysius II.

Plutarch adds that Eudemus' death in Syracuse took place during a campaign in which he fought alongside Dion, councillor to Dionysius I and later the adversary of Dionysius II.⁴

The central theme in the text is 'driving out tyranny' or 'fleeing tyranny'.⁵ 'Tyranny' here stands for an organization of society in which the actions of citizens are governed not by rational laws but by the whims of an irrational ruler.⁶ Eudemus is mentioned by Plutarch as one of the 'philosophers' who allied themselves with Dion in his attempt to drive out the tyranny of Dionysius II⁷ from Syracuse. Like Socrates, Eudemus died for his ideal. But the word 'tyrant' is also used three times to characterize Alexander of Pherae in Thessaly,⁸ where Eudemus stayed when he fell dangerously ill.⁹ Perhaps Eudemus' acute illness can also be interpreted as evidence of the 'tyranny' of man's corporeality. In any case Aristotle seems to have compared 'life free of the earthly body' to true health.¹⁰ Perhaps, too, Aristotle saw Eudemus' illness as the result of a malady not of the soul but of 'that in which' the soul is located, as he suggests in *De anima* I 4.¹¹

The theme of tyranny seems to establish a close connection between the theme of the *Eudemus* and the two texts on the torments to which Etruscan robbers subject their prisoners,¹² which are an image of the soul's tribulations in the earthly, coarse-material body.

I suspect that the figure of Eudemus in Aristotle's dialogue is strongly modelled on the example of Socrates in Plato's *Phaedo*. And just as Plato expresses the highest praise for Socrates through the

⁴ Plu. *Dion* 22, 3 = Arist. *Eudem.* fr. 1b Ross; 57 Gigon. Cf. L. de Blois, "Plutarch's perception of Plato's political activities in Syracuse", A. Pérez Jiménez *et al.* (eds), *Plutarco, Platón y Aristóteles* (Madrid 1999) 299-304. For a discussion which puts Aristotle's role in contemporary politics into perspective, see K. Trampedach, *Platon, die Akademie und die zeitgenössische Politik* (Stuttgart 1994) 49-57.

⁵ The proposal of G. Méautis, 'L'Orphisme dans l'*Eudème* d'Aristote', *R.E.A.* 57 (1955) 254; 261 to see 'nostalgia', 'homesickness' as the central theme is not at odds with this view.

⁶ Cf. Arist. *Rhet.* I 8, 1366a2. For the semantic field of the term 'tyrant', cf. V. Parker, 'Τύραννος. The semantics of a political concept from Archilochus to Aristotle', *Hermes* 126 (1998) 145-172.

⁷ Plu. *Dion* 22, 4 explicitly calls Dionysius II 'the tyrant'.

⁸ On Macedonia's relation with Thessaly, see G.T. Griffith, "Phillip of Macedon's early interventions in Thessaly (358-352 BC)", *Class. Quart.* 20 (1970) 67-80.

⁹ Was Eudemus there to enlist the services of Miltas, the Thessalian seer, who is mentioned by Plu. *Dion* 22, 4?

¹⁰ Cf. *Eudem.* fr. 5 Ross; 923 Gigon.

¹¹ *Anim.* I 4, 408b22. On this text, see chap. 7 above, where I concluded that 'that in which' must be the soul's 'instrumental body'.

¹² August. *C. Iulian. Pelag.* IV 15, 78 and Iambl. *Protr.* 8, 47, 21 - 48, 9 Pistelli = Arist. *Protr.* 10b Ross; 73 and 823 Gigon. See chap. 16 below.

mouth of Phaedo, who reports Socrates' death, so Aristotle, in a moving *Elegy* on his deceased friend Eudemus at the end of his dialogue, may have expressed the highest possible praise for their common teacher, Plato.¹³

For many years Eudemus lives far away from his homeland Cyprus. He is often thought to have been an exile. But it is intriguing that a Cypriot king Themison is mentioned as the one to whom Aristotle's *Protrepticus* was addressed.¹⁴ This raises the question whether there may have been a (family?) relationship between Eudemus and Themison. Like Odysseus, Eudemus need not have been an exile in the sense of someone who has been banished. His desire for his homeland (and his father Themison?) may well have been due to the protracted nature of his affairs, after his stay in Plato's Academy.

With O. Gigon I assume that there is no sound reason to fix the date of the *Eudemus* directly or shortly after the death of the main character in 353 BC.¹⁵ If the *Elegy* on Eudemus stems from the dialogue *Eudemus*, it seems natural to assume a date after Plato's death. But certainly a date before Aristotle's second stay in Athens remains likely.

We could further speculate whether the figure of Dionysius II played an explicit role in the *Eudemus* and whether he was contrasted with the god after whom he was named, Dionysus the liberator, who may have played a part in a mythical context in the same work.

The apparition which Eudemus sees in his sleep may suggest the gracious female figure who predicts to Socrates his 'release' three days later in Plato's *Crito*.¹⁶

¹³ Cf. K. Gaiser (1966) 84-106 and chap. 16 below.

¹⁴ Stob. 4, 32, 21 = Arist. *Protr.* fr. 1 Ross; B 1 Düring; 54 Gigon. Themison is emphatically said to be a 'king', and not a 'tyrant' like Alexander of Pherae. If Eudemus was the son of Themison, who was sent by his father to Athens (and Macedonia?) on a certain mission, Eudemus may have easily become the model for many later princes in stories like 'The Song of the Pearl'.

¹⁵ Cf. O. Gigon, 'Prolegomena' 23. P. Moraux' counter-argument that Eudemus was a much less famous figure than Socrates ('From the *Protrepticus* to the dialogue *On Justice*', in the volume cited above (1960) 120 n. 1) is not decisive in my view. E. Berti, *La filosofia del <<primo>> Aristotele* (new edition – Milano 1997) 14-15 insists on a date before 347 BC. It is worth mentioning the position taken by J. Zürcher, *Aristoteles' Werk und Geist* (Paderborn 1952) 18, who considers the attribution of Aristotle's lost works to his early period 'unberechtigt, grundlos, zu aprioristisch und dem Altertum gänzlich unbekannt' (cf. 21-31). An interesting argument put forward by Zürcher (23) is that Aristotle is unlikely to have dedicated his *Protrepticus* to a king when he himself was still a young man.

¹⁶ Pl. *Crito* 44a. Cicero refers to this in *Div.* I 52, which directly precedes his story about Eudemus' prophetic dream.

Immortality of the soul or immortality of the intellect?

Themistius, *In de anima* 106, 29-107, 5

(= Aristotle, *Eudemus* fr. 2 Ross; 58 Gigon).

Of the arguments (*logoi*) which he [Plato] used about the soul's immortality, nearly all the most important ones also arrive at the (immortality of) the intellect (*nous*), like the argument on the basis of self-movement. For it was demonstrated that only the intellect moves by itself, if instead of 'activity' (of the intellect) we can put 'movement'. And likewise the argument stating that learning is a matter of recollection (*anamnesis*), and the argument of the soul's likeness to God. But also the most plausible of the other (arguments) can be readily related to the intellect, like those which Aristotle himself worked out in the *Eudemus*. It follows that Plato, too, holds only the intellect to be immortal, though only as part of the soul; but that he holds emotions and the connected rational principle (*logos*) as the passive intellect (*pathêtikos nous*) to be mortal.

Themistius (AD 317-390) is harmonizing the philosophical positions of Plato and Aristotle here. But his method is unhistorical. Plato did not draw a sharp and systematic distinction in his dialogues between *psychê* and *nous*.¹⁷ Aristotle in his writings, on the other hand, did. His philosophical position shows clear progress in relation to his predecessors, in the sense of a sharper insight into the variety of the aspects of empirical reality, because he distinguished the logical/analytical aspect systematically from the psycho-sensory and the biotic and consistently tried to do justice to the specific laws of each of these aspects of reality. But because Aristotle now calls the intellect immortal, and the visible body mortal, he faces the problem of how to describe the soul as an intermediate level. In fact he has no option but to give it the intermediate position 'more immortal than the visible body, but less mortal than the intellect'¹⁸ (just as he described the celestial beings as divine but less divine than the transcendent Unmoved Mover).

We have no particulars about the source of Themistius' information. But perhaps we can surmise not just that the view that only the intellect is immortal (and so not the soul inasmuch as it is nutritive, sensitive, or the principle of locomotion) was argued in the *Eudemus*, but also that the revision of arguments from Plato's dialogues was

¹⁷ Cf. R.S. Bluck, *Plato's Phaedo* (London 1955) 3 and W.K.C. Guthrie, *A history of Greek philosophy* vol. IV (Cambridge 1975) 246-247; 421.

¹⁸ See also chap. 14 below.

Aristotle's own work. This is how he proceeded in his defence of the eternity of the cosmos, as we can infer from Philo of Alexandria's *De aeternitate mundi*. In this discussion, too, Aristotle played off arguments and dogmas from Plato's *Timaeus* against his teacher.¹⁹

However, if we accept Themistius' testimony,²⁰ how does this affect our interpretation of the story about 'the soul's return home' in Cicero's *De divinatione*. Should we interpret '*animus*' as identical to 'intellect'? After all, Aristotle is unlikely to have made the 'naïve' equation between intellect and soul, given that Plato in his *Republic* and *Phaedrus* had clearly attributed the sensitive and emotional functions to the *psychè* in the narrower sense, but the logico-analytical and intuitive function to the *nous*.²¹ But if Cicero meant that Eudemus' intellect returned 'home', what happened to Eudemus' soul (*psychè*) in the stricter sense, since it cannot have possessed immortality?

Surprisingly, this problem has hardly been addressed in the modern literature.²² A closer look might easily have suggested that in Cicero's report Aristotle talks about the 'return home' of Eudemus' soul, but that he described this return as a journey in various stages, in which the soul together with its 'instrumental body' leaves the visible body and embarks on its journey to the celestial spheres. For this ascent, through the sublunary spheres of air and fire and then through the seven spheres of the Moon and Sun and planets, the soul-principle requires a somatic vehicle, since as an incorporeal formal principle it has no movement of itself. Finally, Aristotle may have assumed that, at the end of this ascent, the soul-body or the soul-vehicle is abandoned and the soul-covering cast off, so that the pure, incorporeal intellect shares in true immortality.²³ For the activity of the intellect the specific psychic functions of the emotions and passions form a burden and obstacle requiring release and purification (*katharsis*).

¹⁹ Cf. Philo' *Aet.* 27; 31. Cf. D.T. Runia, "Philo's *De aeternitate mundi*: the problem of its interpretation", *Vigil. Christ.* 35 (1981) 105-151.

²⁰ J.M. Rist, *The mind of Aristotle* 166 is against this. Because he assumes two clearly distinct phases in Aristotle's development, an almost Platonic phase and the mature Aristotelian one, he sees Themistius' text as an attempt to adjust the position of Aristotle's *Eudemus* to the later view. But Rist does not allow enough for the various doxographical reports which say that, according to Aristotle, the soul survives for some time but then dissolves into the ether.

²¹ Cf. Pl. *Phdr.* 247c; *Tim.* 30b; *Phlb.* 30c.

²² But see E. Berti, 'Aristote était-il un penseur dualiste?', *Thêta-Pi* 2 (1973) 73-111, 97ff. (repr. in *Studi aristotelici* (L'Aquila 1975) 233-260, 250ff.)

²³ See chap. 14 below.

In chapter 6 above I conjectured that this may have been the real point of the final remark in *De anima* II 1, 413a8-9, where Aristotle asks whether the soul is the entelechy of the instrumental body in the same way that a sailor is of a ship.

Note that Themistius' text clearly gives the impression that the scientific quality and logical stringency of the arguments developed by Aristotle in the *Eudemus* were not inferior to those of Plato or his own in the extant writings.²⁴ There is a rather striking contradiction here with the information provided by Elias in his commentary on the *Categories*, which I will discuss now.

How serious and scientific was the Eudemus?

Elias, *In Categories* 114, 25

(= Aristotle, *Eudemus* fr. 3 Ross; 61 Gigon)

He offers his proofs for the immortality of the soul in the acroamatic writings by means of conclusive arguments, but in his dialogical writings by means of plausible arguments based on probability. For he says in his acroamatic writings *On the soul* ...;

32. But in his dialogical works he says: the soul is immortal, since by nature we human beings all make libations to the departed and we swear by them. But nobody makes libations for someone who does not even exist or swears by such a person.

But Alexander [of Aphrodisias] posits another difference between the acroamatic writings and the dialogical works, namely that he formulates his own views and the truth in the acroamatic writings, but in the dialogical works the opinions of others who are unreliable...

Alexander argued this position because he held that the rational soul is mortal, and Aristotle, particularly in his dialogical writings, seems to profess the immortality of the soul. He [Alexander] posited this distinction to suggest that he is not in conflict with Aristotle.

This text does not tell us anything new about Aristotle's *Eudemus*. It does show that, as regards the distinction between Aristotle's extant and lost works, Alexander of Aphrodisias had no information deriving from Aristotle's own statements.²⁵ The position of Alexander and

²⁴ This is also indicated by *Eudem.* fr. 7 Ross; 59 Gigon.

²⁵ On this problem, cf. I. Düring, *Aristotle in the ancient biographical tradition* 426-443; R.A. Gauthier, J.Y. Jolif, *Aristote. L'Éthique à Nicomaque* 2nd ed. vol. I 63-67. O. Gigon (1960) 33 still argued that Alexander was the last philosopher in Antiquity to have access to Aristotle's dialogues. See in connection with that topic J. Barnes, 'Roman Aristotle', J. Barnes; M. Griffin (eds), *Philosophia togata* vol. II (Oxford 1997) 1-69.

later authors on the meaning of the term *exôterikoi logoi*,²⁶ which Aristotle used to refer to existing writings, does not derive from Aristotle either and is based on hypotheses of the commentators, which therefore need to be critically examined. And the proposal of Alexander of Aphrodisias that Aristotle did not argue his own views in his dialogues can be relegated to the realm of (pseudo-scientific) fantasy, like the modern hypothesis that the views of the dialogues were abandoned by Aristotle at a later stage.

Aristotle may well have argued from the empirical fact that people make libations to the deceased and invoke them in swearing a solemn oath. There may even be a connection here with Orphic myths and possibly the cult of Dionysus.²⁷ A similar line of thought is found in fr. 6 Ross; 65 Gigon, where the impiety of lying about and defaming the deceased is said to show that the dead have passed on to a higher and better condition. But Aristotle also uses such arguments in his acroamatic works.²⁸

Note that I. Düring was very critical about the quality of Elias' information. However, it is defended by P. Moraux.²⁹

Rejection of Plato's doctrine of anamnesis

The texts in later authors which can be connected with Aristotle's lost work the *Eudemus* or *On the soul* have often been interpreted as testifying to a 'Platonistic' phase in Aristotle. W. Jaeger used the term 'Platonistic' here on account of three assumed facets of Aristotle's conception, i.e. (a) acceptance of the doctrine of Ideas; (b) the use

²⁶ Cf. *Eth. Nic.* I 13, 1102a26-28; VI 4, 1140a1-3; *Eth. Eud.* II 1, 1218b32; I 8, 1217b20-23; *Metaph.* M 1, 1076a28; *Pol.* III 6, 1278b30-32; VII 1, 1323a19-23; *Phys.* IV 10, 217b30-31. On this subject, cf. A.P. Bos, 'Exôterikoi logoi and enkyklioi logoi in the *Corpus Aristotelicum* and the origin of the idea of the *enkyklios paideia*', *J.H.I.* 50 (1989) 179-198.

²⁷ Making libations to the dead can be compared to a ritual like our 'All Souls' Day', an intimate act of remembering deceased family members. But Pl. *Resp.* II 364e also talks about Orphic rites in which sacrifices serve to expiate and purify unjust deeds by the living as well as the dead: λύσεις τε καὶ καθαρμοὶ ἀδικημάτων διὰ θυσίων καὶ παιδιᾶς ἡδονῶν εἰσι μὲν ἔτι ζῶσιν, εἰσὶ δὲ καὶ τελευτήσασιν, ἃς δὴ τελετὰς καλοῦσιν....

²⁸ Cf. *Cael.* I 3, 270b1. (See also *Mu.* 6, 400a15.) Perhaps, indeed, Elias' report that Aristotle held the soul to be immortal ἐπειδὴ ... ὁμνυμεν κατ' αὐτῶν, is based on the information from Plutarch in fr. 6 Ross; 65 Gigon: τὸ ψεύσασθαι τι κατ' αὐτῶν ... οὐχ ὅσιον....

²⁹ I. Düring, *Aristotle in the ancient biographical tradition* 437-438. P. Moraux, 'Zu Aristoteles' *Eudemus*, fr. 3 Walzer', *Z. f. P. E.* 29 (1978) 37-39.

of mythical elements in the argument; and (c) a dualistic anthropology in which the soul was presented as independent of the body.

Under the impact of Düring's repeated attacks, scholars have generally abandoned the view that Aristotle ever accepted Plato's doctrine of Ideas.³⁰ The question of the use of mythical elements has not been a point of contention in the modern debate. And the axiom of a 'Platonistic' psychology in the *Eudemus* in particular is still widely held. But we are entitled to ask whether the rejection of the doctrine of Ideas did not have consequences for Aristotle that changed his view of the relation between body and soul in a direction leading away from Platonic philosophy. In his discussion of the *Eudemus* J.M. Rist notes a number of Aristotelian positions in the work which are identical or at least not at odds with views which Aristotle sets out in his treatise *De anima* in the surviving Corpus.³¹ First, this dialogue already criticizes the theory which forms an important theme in Plato's *Phaedo*, i.e. the Pythagorean view that the soul is the 'harmony' of the body. Second, Aristotle also developed the theme of the soul's immortality in this dialogue with emphasis on the immortality of the soul's intellect. Too, the idea that the soul is a 'kind of *eidos*'³² is no reason to state a contradiction with *De anima*.³³

A significant statement in this connection is found in Proclus. Though its provenance is not mentioned, it has almost certainly been drawn from one of Aristotle's dialogues, and has often been connected with the *Eudemus*.³⁴

³⁰ Cf. J.M. Rist, *The mind of Aristotle: A study in philosophical growth* (Toronto 1989) 9 and 14: 'Aristotle seems never to have accepted Plato's theory of transcendent Forms'. Of course, this also means that *Eudemus*' 'return' to his 'homeland' cannot be interpreted Platonistically as the ascent of his soul to the world of Ideas. As in Plot. *Enn.* I 6 [1] 8, 16, 'the homeland' in the *Eudemus* should be read as (the realm of) the transcendent Intellect with which the human intellect is united when it has cast off every connection with corporeality.

³¹ J.M. Rist (1989) 46-47.

³² Cf. Philop. *In De an.* 141, 22 = Arist. *Eudem.* fr. 7 Ross; 59 Gigon and Simpl. *In De an.* 221, 20-33 = Arist. *Eudem.* fr. 8 Ross; 64 Gigon. Note, however, that if there is no conflict between the *Eudemus* and *De anima* about the doctrine that the soul is an *eidos*, this clearly affects my view of the 'proofs of the soul's immortality' in the *Eudemus*. In that case the *Eudemus* must also have argued that the soul is the *eidos* of a 'natural body which is its instrument'. And so the *Eudemus*, like *De anima*, must have attributed immortality in the proper sense to the *intellect* alone.

³³ Cf. also C. Lefèvre (1971) 11-12. O. Gigon, 'Prolegomena to an edition of the *Eudemus*' 27 had asserted: 'The definition of the soul as an *εἶδος* is of course incompatible with the concept of *ἐντελέχεια* in *De anima* B 1'.

³⁴ Procl. *In Remp.* II 349, 13-26 (ed. G. Kroll); Arist. *Eudem.* fr. 5 Ross; fr. 923 Gigon. F. Dirlmeier, 'Aristoteles', *Festschrift für Dr. A. Stohr. Jahrbuch für das Bistum Mainz* (1950) 161-171; repr. in P. Moraux (ed.), *Aristoteles in der neueren Forschung*

The inspired Aristotle, too, relates why the soul, when it comes here from there, forgets what it saw there, but when it goes from here, remembers its experiences here. And his argument seems plausible. Some people, he says, even forget, when going from health to disease, the ability to write which they first possessed. But such a thing never happens to somebody who goes from disease to health. Now, life without (the earthly) body is natural to souls and comparable with health, but being in an earthly body is unnatural and comparable with disease. For souls live there naturally, but here unnaturally. So it is reasonable that the souls which come here from there forget the things there, but that the souls which go from here to there continue to remember the things here.

A relation with the *Eudemus* is natural given the fact that this work mentions the almost fatal illness of the eponymous figure and the memory which he preserved, after recovering, of the prophetic dream which he had in this period of illness.³⁵

It is clear in this text that Aristotle criticized the doctrine of *anamnesis* as an explanation for the possibility of scientific, certain knowledge. Apparently Aristotle did not reject the pre-existence of the soul and its independence from the (visible) body but Plato's assumption that the memory of the contemplated Ideas allows man, by seeing visible reality, to intuit eternal, unchangeable reality. And it is likely that he interpreted birth as a process which leads to forgetfulness (of the origin).³⁶ This means that in his lost works, too, Aristotle attributed to perception and experience of concrete reality the positive value of forming the exclusive basis on which the man who has developed his rational function can arrive at knowledge of the universal.³⁷ We can therefore assume that in this context Aristotle already developed a theory of science—as set out in *Metaphysics* A 1—which differed fundamentally from that of his teacher Plato.

Proclus talks about the fine-corporeal vehicle of the soul as belonging to the soul itself³⁸ and about 'from here' and 'to here' as

(Darmstadt 1968) 144-157, rightly points out on pp. 151-152 that the text is not entirely Platonic in character.

³⁵ Cf. *Eudem.* fr. 1 Ross; 56 Gigon, discussed above.

³⁶ An example of how this idea may have been elaborated can be found in *Herm. Corpus* X 15, which mentions a 'dilution' of the soul as the visible body grows in volume. This text will be discussed in chap. 16 below.

³⁷ On this subject of Aristotle's epistemology, see R. Bolton, 'Scepticisme et vérité de la perception dans le *De anima* et la *Métaphysique* d'Aristote', C. Viano (ed.), *Corpus et âme* (Paris 1996) 295-329.

³⁸ Cf. Procl. *In Tim.* 238, 20, where Proclus explicitly attributes the doctrine of the soul-vehicle to Aristotle. See chap. 14 below.

referring to earthly corporeal existence, and it is therefore likely that the soul 'without body' in the text quoted above merely refers to the soul 'without the visible, earthly body'. This leaves room for the hypothesis that the psychology of the *Eudemus* already differed fundamentally from that of Plato in that it assumed a 'soul-body' as the link between the incorporeal soul and the visible earthly body. Precisely *pneuma* as the *koinon aisthètèrion* was Aristotle's basis for explaining the coordination of perceptions made by the various senses into one image in the soul's *phantasia*.

And just as Aristotle corrected Plato's theory of the transcendent Ideas 'separate' from all materiality in his own theory of the eternal 'forms-in-matter', so he presumably presented the soul of earthly living creatures in its motor function and its sensitive and vegetative functions as *enhylos*, i.e. as inseparably accompanied by a fine-corporeal substrate.

'The revelation of Silenus' to King Midas on man's being a stranger

Just as Plato in his *Phaedo* puts a myth into Socrates' mouth about a 'heavenly earth' which puts all earthly existence into perspective, so Aristotle in the *Eudemus* seems to have introduced the figure of Silenus, the *daimôn* and traditional companion of the god Dionysus, who speaks about the true reason why man on earth does not feel 'at home' but as if he is 'abroad', like Eudemus.

Plutarch, *Consolatio ad Apollonium* 115B-E

(= Aristotle, *Eudemus* fr. 6 Ross; 65 Gigon)

Many wise men, as Crantor says, not just of today but of long ago, have lamented the human lot, convinced that (earthly) life is a punishment (*timôria*) and that to be born a man is the greatest disaster. Aristotle says that Silenus, after he had been captured, revealed the same to (King) Midas. But it is better to quote the philosopher's actual words. In his work entitled *Eudemus* or *On the soul* he says the following:

'For that reason, most excellent and considered most blessed of all men, we consider the dead to be blessed and happy, but we also regard it as a taboo to lie about them or slander them, since they have passed on to a better and more excellent condition. And this custom is so ancient and venerable that no one at all knows who established it, but it has held good for the endless time of the world [*aiôn*], from beginning to end. And moreover you observe

that well-known saying that goes around³⁹ among people, which has been handed down from old times...'

'What do you mean?', he asked.

And he answered: 'That not to be born is best of all, and that death is better than life. This has been confirmed to many people by beings of a supernatural order. And they say that when the famous Midas had caught Silenus while hunting and interrogated him and kept on asking him what is best for man and most desirable of all, Silenus would not tell him. He remained stubbornly silent. But after Midas had forcefully exhorted him to speak, he finally said to him under compulsion⁴⁰:

"Short-lived seed of a toil-giving demon and an evil lot, why do you force me to say what is better for you not to know (*gnônai*)? For a life lived in ignorance (*agnoia*) of its own misfortune is least painful. But for human beings the best of all is unattainable, and it is impossible to share in the nature of what is most excellent: For the best thing for all human beings, for men and women alike, is: *not to be born*. And second best, which can be achieved by man, is to die as soon as possible after birth".

It is clear that he gave this revelation because man's condition after death is more excellent than during (earthly) life.'

The text forms part of a *Consolation for Apollonius* which has been handed down in Plutarch's name,⁴¹ and which apparently also draws on a work by Crantor of Soli (335-275 BC),⁴² probably his work *On Grief*.⁴³

Even the dialogue style can be still recognized in the fragment. The intriguing question is who the discussion partners may have been, especially because one is addressed by the other as 'Thou most excellent and considered most blessed of all men'.⁴⁴ P. Gohlke imagines the addressee to be a king.⁴⁵ O. Gigon identifies him with some or other divine being.⁴⁶ K. Gaiser, partly on the strength of a recently

³⁹ For the semantic background to the word θρυλούμενον used here, cf. E.G. Schmidt, 'ΠΟΛΥΘΡΥΛΗΤΑ. Ein Topos diskriminierender philosophischer Polemik', *Philologus* 141 (1997) 215-259.

⁴⁰ H.J. Drossaart Lulofs, *De ogen van Lynceus* (Leiden 1967) 15 n. 38 accepts instead of 'under compulsion' (ἀναγκαζόμενον) the correction proposed by J. Bernays: 'bursting into a roar of laughter' (ἀνακαγχάζοντα).

⁴¹ Cf. *Plutarque, Consolation à Apollonios* texte et trad. avec introd. et comm. par J. Hani (Paris 1972); *Plutarque, Oeuvres morales* vol. II, texte établi et traduit par J. Defradas; J. Hani (Paris 1985).

⁴² On him, see D.L. IV 24-27.

⁴³ Cf. *Plu. Cons. ad Apoll.* 104C; *Cic. Tusc.* I 114-115. R. Kassel, *Untersuchungen zur Griechische und Römische Konsolationsliteratur* (München 1958).

⁴⁴ *Plu. Consol. ad Apoll.* 115B: ὁ κράτιστε πάντων καὶ μακαριστότατε.

⁴⁵ P. Gohlke, *Aristoteles, Fragmente* 45.

⁴⁶ O. Gigon (1960) 26.

discovered text by Philodemus, has conjectured that King Philip of Macedonia was one of the dialogue partners in the *Eudemos*.⁴⁷ It may therefore be that the leading speaker in this part was Aristotle himself. Cicero informs us that that Aristotle played the main role in some of his dialogues.⁴⁸ In any case it seems likely that the addressee is a mortal. The apostrophe 'considered blessed' differs significantly from the epithet 'blessed' which describes the glorious condition of the dead.

The fact that earthly life is characterized here as a form of 'punishment' and 'penance' and that 'being born' is presented as the beginning of this penance establishes a clear connection between the 'revelation of Silenus'⁴⁹ and the Orphic tradition with its consecratory and purificatory rituals. Hence there is also a strong relation with the texts about the torment to which Etruscan robbers are used to subject their prisoners according to texts in Augustine and Iamblichus,⁵⁰ which will be discussed in chapter 16 below.

Interestingly, Silenus here reveals *gnôsis* of a comprehensive nature, similar to that which will later be cultivated in the Hermetic Corpus and the Gnostic systems, but Silenus also gives the impression of begrudging mortals the acquisition of this knowledge, even though he pretends that ignorance (*agnoia*) makes life on earth more tolerable for a man like Midas,⁵¹ because he is not constantly tormented by 'nostalgia' for lost happiness.⁵²

⁴⁷ K. Gaiser, 'Ein Gespräch mit König Philipp. Zum "Eudemos" des Aristoteles', *Aristoteles. Werk und Wirkung, P. Moraux gewidmet*, vol. 1 (Berlin 1985) 457-484. If this conjecture is right, the positive relation of the work with the Macedonian royal family may have played a role in the loss of the work. Gaiser (1985) 463 concludes that Philip's interlocutor may have been Eudemos himself, of whom Cicero reports that he was 'on his way to Macedonia'. An interesting statement is found in Euseb. *PE* XV 2, 4, who says that the eristic Alexinus presents a conversation in his *Memorabilia* between Alexander the Great and his father Philip in which the former ridicules Aristotle's philosophy.

⁴⁸ Cic. *Att.* 13. 19, 3-4.

⁴⁹ There may have been a connection between Silenus and the 'beings on the Moon' mentioned in *Gener. anim.* III 11, 761b13-23 and *Motu anim.* 4, 699b19, who may also be referred to in *Anim.* II 3, 414b18-19 by the words: ἑτέροις δὲ καὶ τὸ διανοητικόν τε καὶ νοῦς, οἷον ἀνθρώποις καὶ εἴ τι τοιοῦτον ἕτερον ἔστιν ἢ τιμωτέρον.

⁵⁰ *Protr.* fr. 10b Ross; B 106-107 Düring; 73 and 823 Gigon.

⁵¹ For various aspects of this figure, cf. S. Ijsseling, 'Koning Midas en de Sileen. Over de differentie, de kunst en het transcendente', *Tijdschr. v. Filos.* 57 (1995) 423-432.

⁵² It is remarkable that, according to Hipp. *Haer.* VII 27, 1-4, Basilides the Gnostic taught that, after all beings who have the capacity for *gnôsis* have indeed achieved *gnôsis* through enlightenment, God will bring about a 'great Ignorance' throughout the cosmos, so that it will no longer be tormented by desire for what is

Silenus' speech addresses various themes which are also found together in the very important chapter A 2 of the *Metaphysics*: the awareness of not knowing (*agnoia*) is designated there as the starting motor of philosophy; a positive similarity between myth and philosophy is noted; philosophy as the way to true knowledge is presented as the means of liberating man, who is in many respects unfree; and we are assured that the gods do not jealously prevent man from attaining true knowledge.⁵³

It becomes clear here that Aristotle's positive message was: man's misery is his ignorance (*agnoia*); it is due to his entrance into the world of becoming; but awareness of this ignorance is also the beginning of the way to knowledge which all men naturally desire.⁵⁴ This knowledge is knowledge of God and the knowledge which God himself possesses.⁵⁵ But *gnôsis* for man is ultimate *self*-knowledge too. In order to obtain this supreme knowledge, which is also called the most 'free' science, in comparison with which all the disciplines are 'subordinate', 'handmaidens',⁵⁶ man must actualize his theoretical intellect and thereby come to see that he is only truly free, *and like to God*, in the performance of this activity. The terse dictum 'in order to escape from ignorance, man began to philosophize'⁵⁷ seems to contain a reminiscence of the famous text in Plato's *Theaetetus*, where he urges man as an exile in misery: 'we should therefore attempt to escape as soon as possible from here to there. And "to escape" means: to become as like to God as possible'.⁵⁸

Aristotle's philosophical conception seems the best conceivable setting for the view that realization of the task set by the God of Delphi 'Know thyself' ultimately leads man to the insight that his true

beyond its reach.

⁵³ *Metaph.* A 2, 982b11-983a10. On this theme, cf. E. Milobenski, *Der Neid in der griechischen Philosophie* (Wiesbaden 1964) and L. Brisson, 'La notion de φθόνος chez Platon', *Recherches sur la philosophie et le langage* 18 (1996) 41-59; M.J. Mills, 'Φθόνος and its related πάθη in Plato and Aristotle', *Phronesis* 30 (1985) 1-12.

⁵⁴ *Metaph.* A 1, 980a20. Aristotle uses the word ὀρέγονται, here, which directly suggests the notion of *orexis* which he connected so emphatically with *pneuma* in *Motu anim.* 10.

⁵⁵ *Metaph.* A 2, 983a4-11.

⁵⁶ An allegorization of Homeric texts also plays a role in this theme, which Philo of Alexandria develops at length in *De congressu*, where Penelope stands for true wisdom and her slaves for the disciplines.

⁵⁷ *Metaph.* A 2, 982b19: διὰ τὸ φεύγειν τὴν ἄνοιαν ἐφιλοσόφησαν.

⁵⁸ Pl. *Th.* 176a. Plot. *Enn.* I 6 [1] 8, 1-21 shows the reference to Homer in this text: *Il.* 2, 140; 9, 27; *Od.* 5, 37. Cf. J. Pépin, 'The Platonic and Christian Ulysses', D.J. O'Meara (ed.) *Neoplatonism and Christian thought* (Albany 1982) 3-18.

essence is not his soul but his theoretical intellect, and that in this sense self-knowledge is possible owing to knowledge of God; but also that self-knowledge means: insight into one's own divinity. It is in this context that we will have to place reports that Aristotle wrote about the Delphic precept.⁵⁹ Interestingly, Alexander of Aphrodisias remarks at the beginning of his study on the soul that addressing this subject is a form of obedience to the precept of the Delphic God.⁶⁰ We can add that true self-knowledge in the Aristotelian view also means that man, though a natural living creature, possesses a supernatural principle in relation to which all natural aspects of man's physical, biotic, and psychic functioning are incomparably lower in value. From the metaphysical perspective, from a position *outside* of natural reality, natural philosophy, for all its impressiveness, is seen to be a 'secondary' philosophy and a philosophy of dependent, perishable reality.

The 'many wise men' in olden times who presented everyday life as a form of penance, and to whom Crantor seems to have referred, were undoubtedly the Orphic poets and all who followed their line. Plato counted himself among them.⁶¹ It is important here that not only the human body was presented as the 'prison' of the soul, but that the entire cosmos was conceived of as an underworld and a place of custody. This position, too, had already been developed in the Old Academy.⁶²

⁵⁹ Cf. Plu. *Colot.* 1118C = Arist. *Philos.* 1 Ross; 709 Gigon; Diog. L. II 23 = *Philos.* 2 Ross; 861 Gigon; Porph. apud Stob. 3, 21, 26 = *Philos.* 3a Ross; 28 Gigon; Clem. Str. I 14, 60, 3 = *Philos.* 3b Ross; 29 Gigon. Cf. P. Courcelle, *Connaîs-toi toi-même. De Socrate à St Bernard* III vols (Paris 1974-75) I 20f.

⁶⁰ Alex. Aphrod. *Anim.* I 1, 4. The precept 'Know thyself' also plays an important role in Ps.-Pl. *Alc.* 1, which in late Hellenism functioned as an introduction to Plato's philosophy.

⁶¹ Cf. Pl. *Phd.* 62b; *Epist.* VII 334e-335c, with the commentary by G. Méautis (1955) 256. Cf. Iamblichus' text on 'the Isles of the Blessed' discussed below, which also talks about οἱ σοφοὶ τῶν ποιητῶν.

⁶² Cf. Xenocrates (who after Plato's death had left for Assos in Asia Minor together with Aristotle and whose pupil Crantor later was) fr. 20 Heinze; 219 Isnardi Parente: ... ἡ φρουρά ... ὡς Ξενοκράτης, Τιτανική ἐστὶν καὶ εἰς Διόνυσον ἀποκορυφοῦται. Cf. P. Boyancé, 'Xénocrate et les Orphiques', *R.E.A.* 50 (1948) 218-231; and id. 'Note sur la φρουρά platonicienne', *Rev. de philol.* 37 (1963) 7-11. Cf. P. Courcelle, 'L'âme en cage', *Parusia. Festgabe für J. Hirschberger* (Frankfurt a. M. 1965) 103-116. Boyancé (1948) 221 has argued convincingly that Xenocrates explained the theme of 'being held in custody' in Pl. *Phd.* 62b as the imprisonment of the rational soul-part in the irrational, impassioned soul-part. His aim is to explain 'comment se fait le passage de la vie logique, qui est celle de Dionysos, à la vie déraisonnable, qui est la vie titanique'. In chap. 16 I will discuss whether Xenocrates already used the mythical story about the laceration of Dionysus by the

We can note, further, that Tertullian, in his work *On the soul*, in which he also mentions a dreaming god Kronos in a work by Aristotle, talks about 'a work by the Phrygian Silenus' on which the Greek philosophers drew and which Tertullian compares with works by Hermes Trismegistus, Orpheus, Musaeus, and Pherecydes. It seems likely that Tertullian is referring to the Silenus who figured in Aristotle's dialogue the *Eudemus*. This work may well have mentioned writings by Silenus.⁶³

Man as the product of a toil-giving demon

Another intriguing aspect is the address of Midas⁶⁴ by Silenus, who reveals his miserable state to him: Midas is a 'Short-lived seed of a toil-giving demon and an evil fate'.⁶⁵ At the risk of committing hyper-interpretation, I would like to say the following. These words are addressed to a man who has not achieved *gnōsis* and is unaware of his divine origin and purpose. Midas is presented here as the mortal result of the procreative urge of his parents. But Aristotle had always related the procreation of earthly, mortal beings to the revolution of the Sun in its yearly orbit through the ecliptic.

Titans in connection with the birth of the human race.

⁶³ Tert. *Anim.* 2, 3: Visa est quidem sibi et ex sacris, quas putant, litteris hausisse, quia plerosque auctores etiam deos existimavit antiquitas, nedum divos, ut Mercurium Aegyptium, cui praecipue Plato adsuevit, ut Silenum Phrygem, cui a pastorebus perducto ingentes aures suas Midas tradidit, ut Hermotimum, cui Clazomenii mortuo templum contulerunt, ut Orpheum ut Musaeum, ut Pherecydem Pythagorae magistrum = Arist. fr. 967 Gigon. H.J. Drossaart Lulofs, *De ogen van Lynceus* 16 mentions that this scene of Midas with his donkey ears listening to Silenus is portrayed on various vases. Cf. J.H. Waszink, 'Traces of Aristotle's lost dialogues in Tertullian', *Vigil. Christ.* 1 (1947) 137-149. Theopompus the historian, in the eighth book of his *Philippica*, had also put a story about 'Meropians' in a paradisiacal state in the mouth of Silenus. This emerges from, among other texts, Tert. *Hermog.* 25; *De pallio* 2, 1. J. H. Waszink (1947) 140 believes that Theopompus borrowed the motif of a revelation by Silenus from Arist. *Eudem.*

⁶⁴ In the Aristotelian Corpus this figure is also found in *Pol.* I 9, 1257b16: καθάπερ καὶ τὸν Μίδαν ἐκεῖνον μυθολογοῦσι διὰ τὴν ἀπληστίαν τῆς εὐχῆς πάντων αὐτῷ γιγνομένων τῶν παρατιθεμένων χρυσῶν. In the *Eudemus* Aristotle played with the notion of 'imprisonment', just as Plato did in the *Phaedo*. Midas' prisoner, Silenus, reveals to him that he himself is imprisoned in materiality and the senses, and teaches him what real 'freedom' is. Cf. H.J. Drossaart Lulofs (1967) 17. Herod. VIII 138 situated the story of Midas and Silenus in Macedonia. We also have the bizarre report that Aristotle said of Pythagoras that he identified Myllias of Croton as the reincarnation of Midas the Phrygian (Arist. *Pyth.* fr. 1c and 1e Ross).

⁶⁵ Plu. *Consol. ad Apoll.* 115B: Δαίμονος ἐπιπόνου καὶ τύχης χαλεπῆς ἐφήμερον σπέρμα.

The celestial spheres rule over the sublunary sphere and preside over generation and death there. In Cicero's *De natura deorum*—this text will be discussed in chapter 14—the chief administrator of these spheres is described as ‘another figure who governs the cosmos in order to rule and preserve the movement of the cosmos’.⁶⁶ The most sensible identification of this figure is with the king and world-archon Kronos, who is subordinate to the council of Zeus, but who by being bound to a natural body, unlike Zeus, suffers from a condition of ‘sleep’ and ‘forgetfulness of the origin’ and passions, and therefore probably showed features of a ruler with delusions of sovereignty, a tyrant.

We can perhaps surmise that Midas is characterized as a product of this ‘toil-giving’ world-archon and the evil fate of living in the world of matter and mortality. A ‘toil-giving demon’ may suggest the way that Gnostics later talk about the cosmic World-Creator as an ignorant braggart. If the *Eudemus* also analyzed Midas’ stupid desire that everything he touched would turn into gold, he was thus characterized as somebody who is so enthralled by materiality that he even metallizes nature’s supply of food, as an ultimate form of necrosis. In this way Midas contrasts with those who have achieved *gnôsis* and have wakened that in themselves by which they transcend matter and the power of the world-archon and need no longer feel prisoners of Fate or of the Spheres of *Anankê*.

That a man like Midas can only achieve a life which is ‘least painful’⁶⁷ could be seen as an indication that creatures like Midas are led solely by their desires (*orexeis*), which are always aimed at obtaining pleasure and avoiding grief.⁶⁸

The ‘Isles of the Blessed’

Augustine, *De trinitate* XIV 9, 12

(= Aristotle, *Protrepticus* fr. 12 Ross; C 43, 5 Düring; 824 Gigon)

Tullius argues in his dialogue *Hortensius*

‘If it were permitted to us, when we have left this life, to spend the endless time of the world on the Isles of the Blessed of which the

⁶⁶ Cic. *N. D.* I 13, 33 = Arist. *Philos.* fr. 26 Ross; 25, 1 Gigon.

⁶⁷ Plu. *Consol. ad Apoll.* 115E: ἀλυπότατος ὁ βίος.

⁶⁸ Cf. *Anim.* II 2, 413b23-24: ὅπου μὲν γὰρ αἰσθησις, καὶ λύπη τε καὶ ἡδονή, ὅπου δὲ ταῦτα, ἐξ ἀνάγκης καὶ ἐπιθυμία. 3, 414b1-6; III 11, 434a1-3.

myths speak, what need would we have for eloquence, when there were no causes to be pleaded, or indeed for the virtues themselves? For we would no longer need courage either, since we would not be set difficult or dangerous tasks, nor justice, where there was no property of another for us to seek; not moderation to rein in passions, for these would not longer exist; and not even prudence, since no choice would have to be made between good and evil. But we would then be happy purely through knowledge of nature and through science, for which alone the life of the gods is to be praised. This shows that all other matters belong to the realm of necessity, but this one matter to the realm of free choice.'

In this way the famous orator, in his glorification of philosophy, in which he also recollects what he had learnt from the philosophers and expounds this in a splendid and pleasing way, states that only in (earthly) life, which as we know is full of misery and error, are all four virtues necessary.

Iamblichus, *Protrepticus* 9. 52, 16 – 54, 5

(= Aristotle, *Protrepticus* fr. 12 Ross; B 42-44 Düring; 73 Gigon)

So it is quite ridiculous to demand from everything a benefit besides the thing itself and always to ask 'what is the gain?' or 'what is its use to me?'. In my view, such a person truly does not know what is valuable and does not know the difference between the cause and a merely contributing factor (of happiness).

The supreme truth of this can be seen if we allow ourselves to be carried in thought to the Isles of the Blessed. There there would be need of nothing, no profit from anything. All that remains is the activity of thought and contemplation: that is to say, what we even now call the 'free life'. If this is true, would someone not be rightly ashamed if, though being free to stay in the Isles of the Blessed, he were unable to do so by his own fault? The reward of science for man, then, is not to be despised, nor is the good it brings slight. For just as we, according to wise poets, receive the reward for a just life, so, it seems, we receive those of wisdom in the Isles of the Blessed.

We have two closely related texts here, of which Augustine's text appears to be a quotation from Cicero's lost dialogue *Hortensius* and so must take priority of place. The reason for attributing them to Aristotle's *Protrepticus* is the sole fact that the second forms part of Iamblichus' *Protrepticus* and since I. Bywater's article⁶⁹ on the relation between the two writings it is usually assumed that Iamblichus drew on Aristotle's work of the same name. But, as with the texts which talk

⁶⁹ I. Bywater, 'On a lost dialogue of Aristotle', *J. of Philol.* 2 (1869) 55-69.

about the Etruscan robbers,⁷⁰ these may well be texts originating in Aristotle's protreptic dialogue *Eudemus*.

The 'Isles of the Blessed' are in any case a location which received a great deal of attention in the Orphic tradition, and the 'wise poets' who talked about rewards in the afterlife for people who lived justly are first and foremost, like 'the wise men' cited by Crantor in the text about 'the revelation of Silenus', the Orphic poets. On their interest in life in Hades and the rewards and punishments which people receive there, Plato wrote extensively in book II of *The Republic*, where he contrasted them with Homer and Hesiod as poets of this world.⁷¹

The 'Isles of the Blessed' were also traditionally connected with the god Kronos,⁷² who was probably discussed in a lost work by Aristotle,⁷³ and whose mention would fit just as well in the 'revelation of Silenus' in the *Eudemus*.⁷⁴

Both texts make the typically Aristotelian distinction between the sphere of human *praxis* and that of *theôria*. They relate the sphere of *praxis* to human wants and desires and the need for these to be governed by the four virtues, each of which manifests the domination of the rational soul-part over passions and urges. Iamblichus' text draws a clear distinction between the quality of the post-mortal existence of those who lived virtuously and of those who realized the theoretical ideal of life. If the former are situated in Hades, and the latter in the Isles of the Blessed, Hades can be plausibly interpreted as the region of Air below the lunar sphere and the Isles of the Blessed placed in the heavenly regions and perhaps more precisely in the outer celestial sphere, which is only reached after a higher degree of purification (*katharsis*).⁷⁵

Plato had already idealized the theoretical life by connecting it with existence on the 'Isles of the Blessed'⁷⁶ and with the outer

⁷⁰ See chap. 16 below.

⁷¹ Pl. *Resp.* II 363c and f. 'Musaeus and his son' are mentioned there as poets who promise eternal inebriety in Hades for 'the just' and punishments like those of the Danaids and Tantalus for 'the unjust and wicked'. Cf. 364e, where Musaeus and Orpheus are mentioned by name as children of Selene and the Muses.

⁷² In Hes. *Op.* 173a-e, in a passage usually viewed as a later addition.

⁷³ Tert. *Anim.* 46, 10 = Arist. *Protr.* fr. 20 Ross; 979 Gigon.

⁷⁴ Because he is one of the Titans, and because of his sleep and dreams. Cf. O. Gigon (1950) 199.

⁷⁵ Perhaps man's soul-principle, when it has cast off its pneumatic covering, retains a natural body which is fiery in nature, like that of the beings on the Moon, and ultimately only an ethereal covering remains in the highest celestial spheres.

⁷⁶ Pl. *Resp.* VII 519c.

celestial sphere.⁷⁷ Aristotle had called this life the truly 'free life' in *Metaphysics* A⁷⁸ and contrasted it with the inferior happiness of the always sleeping Endymion, the lover of the Moon goddess.⁷⁹

The phrase 'even now' in Iamblichus' text, with reference to 'earthly existence', is characteristic of Aristotle.⁸⁰

Perhaps we can connect two other texts with the theme of the 'Isles of the Blessed'. They come from Damascius' commentary on Plato's *Phaedo*.

Damascius, *Commentary on Plato's Phaedo* I 530 (ed. L.G. Westerink)
(= Aristotle, *De philosophia* fr. 23a Ross; 855 Gigon)

If they are long-lived, their (soul-)coverings are perishable. If so, these wear out. And if this is the case, they need food. This is provided by the fruits which can be got there, which are intermediate between those of ours and the celestial ones which the Hesperides hand to those who have reached the end of their journey through the entire world of becoming. And that there must be an entire race of people who are nourished in this way is made clear by the man who is nourished here purely by the rays of the sun, of whom Aristotle said that he himself had seen him.

Damascius, *Commentary on Plato's Phaedo* II 137-138
(= Aristotle, *De philosophia* fr. 23b Ross; 856 Gigon)

The beings there have no diseases and a long life. For the kinds there are intermediate between the eternally living creatures and the mortal ones. For an intermediate level is necessary everywhere. And the absence there of diseases and an early or difficult death is due to the ideal condition of the seasons and the elements. This is not so surprising, since the Ethiopians, too, live in a comparable situation through the proper relation of environmental circumstances.⁸¹ And when Aristotle told of one among us who was not overpowered by sleep and was nourished by sunlit air alone, what should we not consider possible of the people there?⁸²

⁷⁷ Pl. *Phdr.* 247b-e.

⁷⁸ *Metaph.* A 2, 982b25-30.

⁷⁹ *Eth. Nic.* X 8, 1178b3-32.

⁸⁰ Cf. the final line of his *Elegy on Eudemus* (ed. Ross, 146): οὐ νῦν δ' ἔστι λαβεῖν οὐδὲν τὰυτα ποτέ, with the commentary of K. Gaiser (1966).

⁸¹ Cf. Arist. *Long.* 1, 465a9; 466b16-28.

⁸² On this text, cf. W. Lameere, *Ant. Class.* 18 (1949) 306ff., who connects this with Aristotle's text about the fire-creatures on the Moon in *Gener. anim.* III 11, 761b21-22. Cf. *Motu anim.* 4, 699b19. John Philoponus (Michael Ephesius), *In*

We should not infer too much from these texts in a late Neo-Platonist commentary which was formerly attributed to Olympiodorus but has been given back to Damascius by L.G. Westerink. However, it seems most natural to assume a link with Aristotle's *Eudemus*. There is talk here about living creatures whose soul-coverings possess more fineness and quality than those of earthly mortals. The fact that they require no sleep shows that they possess a much higher capacity for intellectual activity.⁸³ Precisely the need to nourish our visible bodies and the concomitant processes of digestion force mortal creatures to alternate periods of waking with sleep.

Libros de Generatione animalium commentaria, ed. M. Hayduck (C.A.G. XIV, pars III (Berlin 1903) 159-160 says of the lunar creatures which Aristotle discusses in *Gener. anim.* III 11: εἰσὶ γὰρ καὶ γίνονται μερικὰ λογικὰ αἰθέρια ζῶα μήτε ἐσθίοντα μήτε πίνοντα, ἀσχολούμενα δὲ περὶ μόνην τὴν ὁρατικωτέραν καὶ θεωρητικωτέραν διατριβὴν καὶ ἔχοντα τὴν οἴκησιν ἐν αἰθέρι καὶ ἀέρι, καὶ ζῆ ἕκαστον αὐτῶν καὶ ὑπὲρ τὰ τρισχίλια ἔτη, θνήσκει δὲ ὁμῶς.

⁸³ Cf. A.J. Festugière, *Hermès Trismégiste* vol. I (Paris 1946) 23 n. 44.

CHAPTER FOURTEEN

THE FIFTH ELEMENT AS THE SUBSTANCE OF THE SOUL

Let us now look at the information about an Aristotelian doctrine on the relation of the soul or the mind with a very special substance, usually called ether or the fifth element. Can this special body be interpreted as the *instrument* of the incorporeal soul, which forms a composite substance with the soul? In that case we are justified in assuming the same psychological theory for Aristotle's lost works as the one which he elaborated in *De anima*.

But first we can make a useful detour by discussing a number of texts dealing with the fifth element in relation to theology.

Cicero on Aristotle's theology

In a famous text Cicero allows an Epicurean to set out what a confused theology Aristotle advanced in his work *On philosophy*. If we can understand why Aristotle's theology was extremely unclear and internally contradictory in the view of some of his later opponents, we will better be able to understand how his psychology, too, was misrepresented in a comparable fashion.

We will have to take into account that Cicero, also in cases where he seems to refer to specific Aristotelian writings, may not have read these works himself, but knew them only second-hand and from the point of view of opponents and improvers¹.

Cicero, *De natura deorum* I 13, 33

(= Aristotle, *De philosophia* fr. 26 Ross; 25, 1 Gigon)

Aristotle, in the third book of his *On philosophy*, creates much confusion by dissenting from his teacher Plato. For now he ascribes all divinity to the Intellect, now he asserts that the cosmos itself is a god, now he sets another figure over the cosmos and ascribes to him the part of ruling and maintaining the movement of the cosmos by a kind

¹ Cf. J. Barnes, 'Roman Aristotle', J. Barnes; M. Griffin (eds), *Philosophia togata*, vol. II (Oxford 1997) 47-48 with reference to Philodemus, in P. Herc. 1426.

of unwinding [*replicatio*]. Then he says that the heavenly element [*caeli ardor*] is a god, not realising that the heavens are a part of the cosmos, which he has himself elsewhere called a god.

But how can the divine sense-perception of the heavens be preserved at such a great velocity? And where is the dwelling-place of all these gods, if we count the heavens, too, as a god? But when he also maintains that god is incorporeal (*sine corpore*), he deprives him of all sense-perception and even of practical rationality (*prudentia*). Moreover, how can the cosmos be moved if it is incorporeal, or how, if it is eternally moving itself, can it be in a state of blissful tranquillity?

Scholars have filled bookshelves with their views on this text.² Here I will only touch on what is relevant to my inquiry into Aristotle's psychology.

Aristotle's philosophical theology is sharply attacked here from the perspective of the Epicurean tradition, on the theological assumption that the divine possesses a fixed number of essential characteristics and that everything which is called divine must display these characteristics. The Epicurean refuses to recognize a gradation in the sphere of the divine. His criticism also shows that Aristotle's theology was thought out in close parallelism with his psychology. God is incorporeal, just as the soul is incorporeal. And God occupies a dominant, all-powerful position, just as Aristotle located the soul in the heart, not throughout the visible body. As transcendent Unmoved Mover, God is incorporeal (*sine corpore*) according to Aristotle.³ But the divine ethereal sphere and the celestial gods consist of the natural, fifth element.

The Epicurean rightly observes that the theology of the Unmoved Mover leaves no scope for divine sense-perception or even for rationality oriented to the practice of living (*prudentia*). This requires a somatic substrate. For Epicurus a god who does not possess powers of perception is impossible. For Aristotle, who posited a purely theoretical Intellect as the highest principle and as incorporeal principle, this was not impossible. But it is interesting to note that the Epicurean attacks Aristotle here on the basis of a position which he would accept: without corporeality perception is impossible. For Aristotle had presented the vegetative and sensitive powers of the soul as

² Cf. B. Effe, *Studien zur Kosmologie und Theologie der aristotelischen Schrift <<Über die Philosophie>>* (München 1970) 157-162 and A.P. Bos, *Cosmic and meta-cosmic theology* 185-200.

³ Cf. D. L. V 32: τὸν δὲ θεὸν ἀσώματον ἀπέφαινε, καθὰ καὶ ὁ Πλάτων. Cf. I. Düring, *Aristotle in the ancient biographical tradition* 74: 'Here I think that Moraux is right in assuming the dialogue *On philosophy* as source'.

incapable of realization 'without body'.⁴ The celestial gods, in contrast to the transcendent Intellect, do have a physical body and they can therefore be presented by Aristotle as endowed with powers of perception.⁵ Thus they mediate all information to God in his transcendence.

Aristotle takes it for granted that the ethereal sphere and the celestial gods lead happy lives in their eternal orbit of the heavens. According to the Epicurean, this is impossible because he conceives of the gods as anthropomorphic and believes that an eternal revolution would make the gods dizzy and prevent any accurate perception.

Precisely the parallelism with Aristotle's psychology makes it clear that God as perfectly pure Intellect is wholly autarkic and independent of all physical reality. But as king and leader of the entire cosmos he governs the cosmos by means of the visible celestial beings and the ethereal spheres as his executive powers. Of Aristotle's psychology, too, the Epicurean could have said that it 'now ascribes all government to the soul as entelechy and form, now assigns to a different entity the role of realizing the movement of the concrete living creature and producing the visible body'.⁶

A fascinating detail in this text is that the most authoritative manuscripts read in the opening lines the words 'a magistro *uno* Platone dissentiens', which could be translated: 'by dissenting from his teacher Plato *in one matter*'.⁷ This 'one matter' by which Aristotle creates *much* confusion could well, in my view, be the doctrine of soul. Hippolytus of Rome claimed this explicitly.⁸ This one decisive disagreement with Plato could be the fact that Aristotle regarded only the intellect as transcendent and incorporeal. All other differences between Aristotle and his teacher could be interpreted as flowing from this one point of difference. Aristotle's double theology is

⁴ *Anim.* I 1, 403a5-19.

⁵ Cf. Olymp. *In Phd.* 8-9 (ed. L.G. Westerink) = Arist. *Philos.* fr. 24 Ross; 903 Gigon. Cf. *Mu.* 6, 398a23. Olympiodorus' text does not make it clear whether his report draws on Aristotle's lost works or on a (correct) interpretation of the surviving work *De mundo*.

⁶ 'By a kind of *replicatio*'. In what follows I will propose that this word stands for 'development', such as the unwinding of the string of a winding mechanism.

⁷ Cf. J. Pépin, *Théologie cosmique* 140, who prints the text as 'a magistro uno [Platone] dissentiens'. O. Plasberg (Teubner 1933; repr. 1968) read: a magistro suo Platone dissentiens.

⁸ Cf. Hipp. *Haer.* I 20, 3: σχεδὸν τὰ πλείστα τῷ Πλάτῳ συμφωνῶς ἐστὶν πλὴν τοῦ περὶ ψυχῆς δόγματος.

explained by his consistent distinction between the pure Intellect as free of corporeality and the Soul endowed with rational powers as 'not without corporeality'. This one point of difference between Plato and his brilliant pupil also explains Aristotle's rejection of the theory of Ideas. Plato, in Aristotle's view, had failed to render intelligible the production of individual, concrete living creatures as images of the Idea corresponding with their kind. Aristotle solved this problem by means of his theory of the soul as dynamic 'form in matter' which produces the visible body by means of its own instrumental body. The introduction of Aristotle's doctrine of the fifth element, which plays a crucial role both in his theology and in his psychology, can also be understood as resulting from his criticism of Plato's theory of soul.⁹

We can infer from this fragment of Epicurean polemics that Aristotle's original opponent had a fair knowledge of the matters involved in Aristotle's (layered) theology. But it is doubtful whether Cicero himself knew the subtle distinctions essential to Aristotle. After all, for three centuries after Aristotle's death immanent philosophy had been dominant and had brought about the 'end of metaphysics'. This had led to an experience of reality which was very remote from that of Aristotle.

I would like to underline here that the theology of the transcendent, immaterial First Unmoved Mover as pure contemplative Intellect was *always* combined by Aristotle with the theory about the visible celestial gods, whose bodies consist of the divine fifth element. All attempts to ascribe to Aristotle an initial theology which can be characterized as 'purely cosmic theology'¹⁰ break down on the lack of incontrovertible references and have only been made because scholars believed they had to solve certain peculiarities in the tradition by means of such a hypothesis. They also break down on the fact that in his lost works Aristotle had already developed a psychology in which

⁹ B. Effe (1970) 158 n. 7 is therefore wrong when he rejects the reading '*uno*' by arguing that there was more than one point of difference between Aristotle and his teacher.

¹⁰ Thus H. von Arnim, 'Die Entstehung der Gotteslehre des Aristoteles', *S.B. der W. Akad. Wien*, 212 Bd, Abh. 5 (1931) 3-80; repr. in F.P. Hager (ed.) *Metaphysik und Theologie des Aristoteles* (Darmstadt 1969) 1-74; W.K.C. Guthrie, 'The development of Aristotle's theology', *Class. Quart.* 27 (1933) 162-172 and 28 (1934) 90-98, according to whom the doctrine of the First Unmoved Mover was placed as a keystone on an existing, older construction; A.J. Festugière, *La révélation d'Hermès Trismégiste*, vol. II: *Le dieu cosmique* (Paris 1949) 238-259; J. Pépin, *Théologie cosmique et théologie chrétienne* (Paris 1964); H.J. Easterling, 'The unmoved mover in early Aristotle', *Phronesis* 21 (1976) 252-265.

the soul could be called a 'kind of *eidos*', and which therefore could not possibly be interpreted in a materialistic or hylozoistic sense, while there are also strong indications that he supported the immortality of the intellect in his lost works too.

We should therefore assume for Aristotle's entire oeuvre a theology in which he distinguished a transcendent immaterial First Mover from a cosmic sphere of gods consisting of the divine fifth element, and an anthropology in which he presented the 'theoretical intellect' as incorporeal and directed to incorporeal objects and separate from all corporeal reality, and a 'practical intellect' or the intellect of the soul, which does not exist and operate without body.

So Aristotle, too, developed his anthropology in parallel with his macro-cosmology. In his anthropology he had used the triad intellect-soul-visible body. In his macrocosmology he had distinguished God as transcendent Intellect from the cosmic gods and the sublunary sphere.

Let us take a closer look at the fact that, according to this text in Cicero, Aristotle assigned 'the government and preservation of the movement of the cosmos' to one entity. This point is also emphasized in the work *On the cosmos*, where the author argues that God 'is truly the preserver of all things and the begetter of what is in any way brought about in this cosmos', through the Power which proceeds from him.¹¹ This point, that God uses only his Power and thereby brings about the entire varied order of the cosmos, is then underlined by the author in the following words:

For he needs no contrivance or the service of others, as rulers among us men need the help of many helping hands owing to their feebleness. This is most characteristic of the divine, to be able to accomplish a wide variety of forms with ease and by a single movement, just as engineers by means (*organon*) of a machine's single release-mechanism accomplish many different operations. In a comparable fashion puppet-showmen by pulling one string make the neck, the hand, the shoulder, the eye, and sometimes all the parts of the puppet move with a certain harmony.¹²

¹¹ *Mu.* 6, 397b20-24.

¹² *Mu.* 6, 398b10-19. Interestingly, the image of a winding mechanism plays a significant role in both Aristotle's theology and his psychology; *Gener. anim.* II 1, 734b5-17; *Motu anim.* 7, 701b2-10; see also *Metaph.* A 2, 983a12-17. This could suggest that the '*replicatio*' mentioned by Cicero, *N.D.* I 13, 33, stands for the 'unwinding' of a winding mechanism. In that case there is a direct link between this theme and the myth in *Pl. Plt.* 269ff. On winding mechanisms in Aristotle, cf. W. Spierri,

In this way Aristotle seems to have presented the efficiency and beauty of the cosmos as the result of divine thought, and in this regard to have drawn a parallel between the work of Nature and production of human craftsmanship (*technè*), but at the same time to have emphasized that there is an important difference between the way God maintains order in the cosmos and the way human producers make their products: people need the help of many instruments and (for large projects) many helpers. God uses only the one Power which proceeds from him and the one instrument, i.e. the outer celestial sphere, which this Power keeps in motion. According to Aristotle, God is not to be described as the 'Maker' of the cosmos but only as the 'Begetter' of a living creature which is as like as possible, but which 'unwinds' or develops by virtue of its own natural *dynamis*.

From this perspective Aristotle also seems to have criticized the laborious craftsmanship of the divine Demiurge in Plato's *Timaeus*. So much can be inferred from a text by Philo of Alexandria.

Philo of Alexandria, *On the eternity of the cosmos* 10-11

(= Aristotle, *De philosophia* fr. 18 Ross; 21 Untersteiner; 916 Gigon)

But Aristotle was surely speaking piously and devoutly when he objected that the cosmos is ungenerated and imperishable, and accused those who maintained the opposite of grave ungodliness, because they thought that such a great, visible god, who contains Sun and Moon and the entire pantheon of planets and fixed stars, is no different from an artefact. He used to say in mockery, we are told, that he had always been afraid for his house lest it be destroyed by violent winds or wintry storms or old age or by lack of proper maintenance, but that now a much greater fear hung over him, from those who were destroying the entire cosmos by their argument.

This text has raised problems for the interpretation of Philo of Alexandria himself, because in his work *On the creation of the cosmos* Philo condemns as most unholy and impious the view of those who hold the cosmos to be ungenerated and eternal.¹³ But this problem vanishes if we see that Philo is referring there to the immanent

'Inkommensurabilität, Automaten und philosophisches Staunen im Alpha der <<Metaphysik>>', J. Wiesner (ed.), *Aristoteles. Werk und Wirkung* Bd. I (Berlin 1985) 239-272.

¹³ Philo, *Opif.* 7-12. See D.T. Runia, 'Philo's *De aeternitate mundi*: the problem of its interpretation', *Vigil. Christ.* 35 (1981) 105-151 and A.P. Bos, 'Philo of Alexandria: a Platonist in the image and likeness of Aristotle', *Studia Philonica Annual* 10 (1998) 66-86.

philosophy of the Chaldeans, who assign world government to the host of visible celestial gods and thus consider the cosmos subject to the polyarchy of the cosmic archons instead of to divine *monarchia*.¹⁴

A relevant passage in connection with Aristotle's criticism here that the work of God should not be conceived of as all too human and craftsmanlike is found in the criticism of Plato's Demiurge which the Epicurean Velleius expresses in Cicero's *De natura deorum*, where he censures the construction of the cosmos in the *Timaeus*, which resembles the construction of a modern bank building with scaffolding, levers, machines, cranes, and the like.¹⁵ In this aspect of Aristotle's theology we can see a parallel to his psychological theory, in which he also described the varied natural production process of a new creature as the work of one instrumental body, which creates a multitude of effects under the guidance of one power which proceeds from the soul-principle.

So while establishing that Aristotle posited a 'double theology' of an Intellect transcending the cosmos and cosmic gods immanent in the cosmos, as the consequence of his sharp distinction between theoretical activity and 'practical and productive activity', we have to conclude that a 'two-sided' theology was sometimes attributed to Aristotle as well. This is the case in the text of

Athenagoras, *Legatio* 6

Aristotle and his followers say that God is as it were a composite living creature (*zôion syntheton*), consisting of soul and body. They maintain that his body is the ethereal, the planets and the sphere of fixed stars which move in an orbit; and his soul the principle (*logos*) which determines the movement of the body, not being in motion itself but the cause of its movement.¹⁶

¹⁴ Cf. Arist. *Metaph.* A 10, 1076a4 quoting *Il.* 2, 204; Philo, *Conf.* 170; Justin, *Dial.* 1, 3; Tatian *Or.* 14, 1.

¹⁵ Cic. *N.D.* I 8, 18 - 9, 20: Quibus enim oculis intueri potuit vester Plato fabricam illam tanti operis, qua construi a deo atque aedificari mundum facit? Quae molitio, quae ferramenta, qui vectes, quae machinae, qui ministri tanti muneris fuerunt? Quem ad modum autem oboedire et parere voluntatis architecti aer, ignis, aqua, terra potuerunt? [...] non modo non natum mundum introduxerit sed etiam manu paene factum. Cf. J. Pépin, *Théologie cosmique* 48ff.

¹⁶ Athenag. *Leg.* 6, 3: ὁ δὲ Ἀριστοτέλης καὶ οἱ ἅπ' αὐτοῦ ἕνα ἄγοντες οἰοῦναι ζῶον σύνθετον, ἐκ ψυχῆς καὶ σώματος συνεστηκότα λέγουσι τὸν θεόν, σῶμα μὲν αὐτοῦ τὸ αἰθέριον νομίζοντες τοὺς τε πλανωμένους ἀστέρας καὶ τὴν σφαῖραν τῶν ἀπλανῶν κινούμενα κυκλοφορητικῶς, ψυχὴν δὲ τὸν ἐπὶ τῇ κινήσει τοῦ σώματος λόγον, αὐτὸν μὲν οὐ κινούμενον, αἴτιον δὲ τῆς τούτου κινήσεως γινόμενον (ed. W.R. Schoedel 1972). Cf. Aetius, *Plac.* I 7, 32 and J. Pépin, *Théologie cosmique* 158-161.

This text is important because it suggests that Aristotle treated the relation of the transcendent Intellect with the ethereal sphere analogously to the relation of the soul as *entelecheia* or *logos* or *eidos* with its instrumental body. Perhaps we can infer from the term 'composite' (*synthetos*) that Aristotle, just as he presented the combination of soul-principle and 'instrumental natural body' as a 'composite substance',¹⁷ presented the combination of transcendent Intellect and cosmic soul-body as a 'composite substance' and, as such, as the World Soul. In this way Aristotle would have reasserted the connection of the theoretical Intellect and the practical Intellect.¹⁸ Just as the power of the soul is operative throughout the instrumental body, but is most concentrated in the central location, so Aristotle may have said of God's Power that it extends throughout the heavenly element, but is most concentrated in the outer celestial sphere.¹⁹ This could also underlie the remark in Clement of Alexandria that the founder of the Peripatos, 'neglecting the Father of the Universe, held the so-called "Highest" (God) to be the soul of the Universe'.²⁰

The doctrine of a limited divine Providence

Here we must also examine the fact that pagan and Christian authors throughout Antiquity attribute to Aristotle a doctrine of 'limited divine Providence'. Athenagoras declares that, in Aristotle's view, everything below the celestial region is excluded from divine Providence.²¹ Ps.-Plutarch, *Placita* ascribes the same idea to Aristotle with an important qualification:

Aristotle did not consider the entire cosmos to be ensouled and endowed with perception, reason, and intelligence or governed by Providence. For (he held) that the celestial beings participated in all

¹⁷ *Anim.* II 1, 412a15-16: ὥστε πᾶν σῶμα φυσικὸν μετέχον ζωῆς οὐσία ἂν εἴη, οὐσία δ' οὕτως ὡς συνθέτη.

¹⁸ This may have been the model for Philo of Alexandria's duality of a wholly self-contained divine Intellect and the *Logos* which he begot as productive principle.

¹⁹ The diminution of the divine Power in proportion to the distance from the divine source of power could be compared with the various gradations of 'purity' of the soul-*pneuma* in the sublunary sphere. Cf. *Gener. anim.* III 11, 761b14-22. See also *Gener. corr.* II 10, 336b10: διὰ τὸ πόρρω τῆς ἀρχῆς ἀφίστασθαι.

²⁰ Clem. *Protr.* 5, 66, 4. Cf. A.P. Bos, *Class. Quart.* 43 (1993) 177-188.

²¹ Athenag. *Leg.* 25: τοῦτο καὶ τὸν Ἀριστοτέλη ἀπρονόητα εἶπεν τὰ κατωτέρω τοῦ οὐρανοῦ ἐποίησεν. Likewise Eus. *P.E.* XV 5, 1: ὁ Ἀριστοτέλης μέχρι σελήνης στήσας τὸ θεῖον τὰ λοιπὰ τοῦ κόσμου μέρη περιγράφει τῆς τοῦ θεοῦ διοικήσεως.

these matters, being clothed in ensouled and life-possessing spheres, but earthly reality in none of these, and that it partakes of order not directly but only accidentally.²²

The same report is found in Stobaeus.²³ Something similar, too, in Diogenes Laertius.²⁴ We also encounter this doxographical tradition in many authors from the early Christian church,²⁵ who eagerly use it to pass harsh criticism on Aristotle. We can easily hear this doctrine in Aristotle's own statement: 'God and nature produce nothing without purpose'.²⁶ And the famous text in which Aristotle compares the cosmos with a household, in which tasks for the free members of the family are much more regulated than those of the slaves, also implies a difference in degree of ordering within the cosmos, but also that God is the principle of this order as final cause.²⁷

On this matter there are no dissenting voices in Antiquity which say that such a doctrine of limited Providence cannot possibly be ascribed to Aristotle. Yet apparently all modern scholars agree that this unanimous tradition in Antiquity about Aristotle's doctrine of limited Providence must be incorrect. Aristotle's doctrine in *Metaphysics* Λ 9, 1074b15-35 rules out any orientation of the transcendent divine Intellect to a reality outside of itself. This proposition was advanced by E. Zeller²⁸ and powerfully supported by A.J. Festugière.²⁹

²² Ps.-Plu. *Plac.* II 3: 'Ἀριστοτέλης οὐτ' ἔμψυχον ὅλον δι' ὅλων, οὐτε μὴν αἰσθητικὸν οὐτε λογικὸν οὐτε νοερὸν οὐτε προνοίᾳ διοικούμενον· τὰ μὲν γὰρ οὐράνια τούτων πάντων κοινωνεῖν, σφαίρας γὰρ περιέχειν ἐμψύχους καὶ ζωτικὰς, τὰ δὲ περίγεια μηδενὸς αὐτῶν, τῆς δ' εὐταξίας κατὰ συμβεβηκὸς οὐ προηγουμένως μετέχειν (ed. J. Mau 1971. Likewise G. Lachenaud in *Plutarque, Oeuvres morales* tome XII, 2 'Opinions des philosophes', Paris 1993, p. 104).

²³ Ioh. Stob. *Ecl.* I 21. Cf. H. Diels, *Doxographi Graeci* 330.

²⁴ D.L. V 32: τὸν δὲ θεὸν ἀσώματον ἀπέφαινε, ... διατείνειν δ' αὐτοῦ τὴν πρόνοιαν μέχρι τῶν οὐρανίων καὶ εἶναι ἀκίνητον αὐτόν· τὰ δ' ἐπίγεια κατὰ τὴν πρὸς ταῦτα συμπάθειαν οἰκονομεῖσθαι.

²⁵ Besides Athenagoras we can list Tatian *Or.* 2; Hipp. *Haer.* I 20, 6; VII 19, 2; Clem. *Str.* 5, 14; *Protr.* 5, 66, 4; Origen. *Cels.* 1, 21; 3, 75; Eus. *P.E.* XV 5, 1 and 5, 12; Greg. Naz. *Or.* 27, 10; Epiphani. *Haer.* 3, 2, 9; Theodor. *Graec. aff.* 5, 77, 47; 6, 86, 7; Ambros. *Off.* 1, 13, 48 and Chalcid. *In Tim.* 250 (ed. Waszink, p. 260). G. Reijndams-Schils, *Demiurge and providence. Stoic and platonist readings of Plato's Timaeus* (Turnhout 1999) could have at least mentioned this tradition.

²⁶ *Cael.* I 4, 271a33: ὁ δὲ θεὸς καὶ ἡ φύσις οὐδὲν ματὴν ποιοῦσιν. But this sentence has often been explained as a hendiadys and as referring to 'the divine nature'. Thus I. Düring, *Aristotle's Protrepticus* 190. O. Longo (1962) also reads ποιεῖ in the singular, on the basis of a very weak tradition. This explanation fails to take sufficient account of *Gener. corr.* II 10, 336b31: τῷ λειπομένῳ τρόπῳ συνεπλήρωσε τὸ ὅλον ὁ θεός, ἐνδελεχῇ ποιήσας τὴν γένεσιν.

²⁷ *Metaph.* Λ 10, 1075a18-23.

²⁸ E. Zeller, *Die Philosophie der Griechen* vol. II 2, 468 n. 1.

²⁹ A.J. Festugière, 'Aristote dans la littérature grecque chrétienne jusqu'à

The latter also explained the origin of the erroneous tradition: the whole of Antiquity held *De mundo* to be a work by Aristotle and the theory of this work was interpreted as a theory of limited Providence. In Festugière's view, however, *De mundo* cannot be Aristotelian. He saw it as a product of late Hellenism.³⁰ I. Düring asserts categorically in his treatment of Diogenes Laertius V 32: 'We know that Aristotle does not speak of πρόνοια (θεοῦ), and it is contrary to all extant evidence to believe that he held such a view as expressed in our epitome. It is a Stoical interpretation of Aristotle's doctrine of the transcendental and unmoved Mover'.³¹ The same line was followed by P. Moraux in a study on 'La doctrine de la providence dans l'école d'Aristote'.³² His view was: 'Jamais le Stagirite ne semble avoir attribué à Dieu une activité véritablement providentielle. Dieu est bien, selon lui, le moteur suprême de l'univers, mais la pensée divine n'a d'autre objet qu'elle-même'.³³ His hypothesis is that the doctrine of limited divine Providence is the result of a 'modernization' of Aristotelian theology by Critolaus, who presented this doctrine as being Aristotelian.³⁴

I cannot resist emphasizing the remarkable aspects of the position held by these scholars.

(a) It goes against a unanimous tradition in Antiquity which ascribes to Aristotle a highly specific doctrine concerning a limited scope of divine Providence.

Théodoret', in id., *L'idéal religieux des grecs et l'Évangile* (Paris 1932) 221-263; W.D. Ross, *Aristotle* (London 1923) 183. Their position is adopted without question by L. Elders, 'The Greek Christian authors and Aristotle', *Doctor communis* 43 (1990) 37-38; repr. in L.P. Schrenk (ed.), *Aristotle in late Antiquity* (Washington D.C. 1994) 122-123. A step in the right direction compared with Festugière is D.T. Runia, 'Festugière revisited: Aristotle in the Greek Patres', *Vigil. Christ.* 43 (1989) 1-34.

³⁰ Cf. A.J. Festugière (1932) 225-232, who dates *De mundo* to around 50 BC; id. *La révélation d'Hermès Trismégiste*, vol. II (Paris 1949) 478. Festugière discusses *De mundo* at length on pp. 460-518 there. W.D. Ross, *Aristotle* 11 dates *De mundo* between 50 BC and AD 100.

³¹ I. Düring, *Aristotle in the ancient biographical tradition* 75. His pronouncement 'contrary to all extant evidence' is very slipshod, in view of the broad tradition which ascribes a doctrine of (limited) *pronoia* to Aristotle.

³² P. Moraux, *D'Aristote à Bessarion: trois exposés sur l'histoire et la transmission de l'Aristotélisme grec* (Québec 1970). See earlier id. *Alexandre d'Aphrodise. Exégète de la noétique d'Aristote* (Paris/Liège 1942) 195-202, where the author shows that Alexander attributed a doctrine of divine Providence to Aristotle, in reaction to the philosophy of the Stoa.

³³ P. Moraux (1970) 41.

³⁴ P. Moraux (1970) 55; cf. 10. Moraux argues the same view in *Elenchos* 7 (1986) 28.

(b) It does so proceeding from knowledge of the Aristotelian Corpus, though it is well known that for centuries Antiquity knew Aristotle's philosophy from his dialogues, which have been lost to us.

(c) In the period after the writings of the Corpus started to circulate no author in Antiquity took exception to the attribution of a doctrine of limited Providence to Aristotle.³⁵

(d) To explain the origin of the so-called erroneous tradition, A.J. Festugière refers to *De mundo*, which was held to be a work by Aristotle throughout Antiquity.

(e) The term 'Providence' does not occur at all in *De mundo*. Though it is perfectly possible to argue that a doctrine of limited Providence is implied in the work,³⁶ it is not explicitly elaborated as such. For this reason it is strange that all by itself *De mundo* supposedly became the cause of this broad, erroneous, doxographical tradition.

(f) This position of modern sceptics fails to take into account the texts which report that Aristotle presented God as the all-governing, guiding, and ordering principle, like a general or a steersman, and who as such could be the explanatory principle of order and continuity in the celestial spheres.

In chapter 3 above we pointed out that, in Aristotle's view, there is a parallel between the doctrine of man as microcosm, with its tripartition of (1) the regulatory soul-principle, (2) the instrumental *pneuma*, and (3) the visible body on the one hand and the doctrine of the macrocosm with the tripartition of (1) God as Unmoved Mover and final cause, (2) the celestial spheres consisting of ether as efficient principle, and (3) sublunary reality on the other hand. In both cases (1) has an effect on (2) but not a direct effect on (3). This is not because of the simple mistake that an 'effect' is tied to a local situation, as Festugière suggests,³⁷ but because there must be a structural relation (*koinônia*) for an effect.³⁸ On this basis I believe we

³⁵ We already pointed out above that even Alexander of Aphrodisias ascribed a doctrine of Providence to Aristotle. Cf. also W.D. Ross, *Aristotle* 183-185.

³⁶ See A.P. Bos, *Class. Quart.* 43 (1993) 181. Apuleius, *De mundo* 24 also translates *Mu.* 6, 397b23: *δυνάμει χρώμενος ἀτρυτῶ* by the words 'quadam infatigabili providentia'.

³⁷ A.J. Festugière (1932) 228: 'Il semble qu'on y confonde l'action avec présence locale. Comme Dieu n'est localement présent qu'à l'οὐρανός, il n'agit donc, de manière immédiate, que sur le seul οὐρανός. La terre, qui en est le plus éloignée, est soustraite à son empire' (in the conception of *De mundo* – APB).

³⁸ Cf. *Anim.* I 3, 407b17-19.

have to conclude that there is no sound reason for denying the doctrine of limited Providence to Aristotle. This tradition may well derive from lost works by Aristotle such as (the *Eudemus* or) *On philosophy*. So there is every reason to enlarge the collections of attestations to Aristotle's lost works to include a number of texts in which the doctrine of limited Providence is attributed to Aristotle.

There are no grounds for denying the authorship of *De mundo* to Aristotle on the basis of its content either.³⁹ And the proposition that reasons of vocabulary or style compel denial of the work to Aristotle⁴⁰ labours under the absence of the lost works of Aristotle and many of his contemporaries.

Our conclusion must be that Aristotle certainly supported a doctrine of divine Providence, but one which was compatible with the dogma of God's complete unchangeability. In Aristotle's view, divine Providence was not an activity of planning and consultation, such as Plato had attributed to the Creator of the World. However, divine Providence could be said to exist inasmuch as all order in the cosmos is brought about in accordance with the eternal divine counsel.⁴¹ F.P. Hager has convincingly shown that in this matter, too, Alexander of Aphrodisias was not an 'orthodox' pupil of Aristotle, but that, in discussion with the Stoics, he developed a new, modern doctrine of Providence.⁴²

The heavenly element as sôma of the human soul

We must now turn our attention to reports which ascribe to Aristotle a theory in which there is a close relation between the soul and a

³⁹ Contra P. Moraux, *Der Aristotelismus bei den Griechen* vol. II (Berlin 1984) 5-82 and H.B. Gottschalk, *A.N.R.W.* 36, 2 (Berlin 1987) 1132-1139, see A.P. Bos, 'Considerazioni sul <<De mundo>> e analisi critica delle tesi di Paul Moraux', *Riv. di filos. neo-scolastica* 82 (1990) 587-606.

⁴⁰ Thus D.M. Schenkeveld, 'Language and style of the Aristotelian *De mundo* in relation to the question of its inauthenticity', *Elenchos* 12 (1991) 221-255. Schenkeveld proposes a date for the work between 350 and 200 BC.

⁴¹ Cf. D. Sedley, 'Is Aristotle's teleology anthropocentric?', *Phronesis* 36 (1991) 179-196. Cf. Plot. *Enn.* III 2 [47] 1, 15-26, where Plotinus rejects προόρασις and λογισμός, but maintains that Providence stands for τὸ κατὰ νοῦν εἶναι of the cosmos.

⁴² F.P. Hager, 'Proklos und Alexander von Aphrodisias über ein Problem der Lehre von der Vorsehung', J. Mansfeld; L.M. de Rijk (eds), *Kephalaion. Studies ... offered to C.J. de Vogel* (Assen 1975) 171-182.

particular elementary body.⁴³ The information which Cicero gives in his *Tusculan Disputations* are much like reports of someone who has heard something about it but has no real knowledge of the matter.

Cicero, *Tusculanae disputationes* I 10, 22

(= Aristotle, *De philosophia* fr. 27b Ross; 994 Gigon):

Aristotle, who far exceeds all others – Plato I always except – in intellect and accuracy, takes account of the four well-known kinds of principles from which all things derive, but also believes that there is a certain fifth kind of thing (*quintam quandam naturam*) from which comes mind (Lat. *mens*). For thought, foresight, learning and teaching, discovery and remembering many things, love and hate, desire and fear, distress and joy, these and their like (he thinks) cannot be present in any of those four kinds. He therefore introduces a fifth kind, which lacks a name and so he calls the reasoning soul itself (*animus*) by a new name ‘*endelecheia*’, as a sort of eternally continuous movement.

Cicero has Aristotle say here that the *mens* consists ‘of a certain fifth kind of thing (*natura*)’.⁴⁴ The Latin word ‘*mens*’ may translate the Greek word for ‘intellect’ (*nous*) but also that for ‘power of reason’ (*dianoia*). But the examples given by Cicero clearly point not to the function of the purely theoretical intellect but to the rational functions: ‘thought, planning, desire and fear, distress and joy, etc. In his surviving work *De anima* Aristotle had listed some of these as not occurring ‘without body’⁴⁵ and as clearly distinct from the intellect, which he presented as being unconnected with any form of materiality. Further on Cicero himself makes it clear that he is talking about the rational human soul (Lat.: *animus*). None of the activities mentioned can ‘be present in’ the ordinary four elements.⁴⁶ And so Aristotle added a ‘fifth kind’.

⁴³ For this problem, cf. in particular P. Moraux, ‘*Quinta essentia*’ (1963); J. Pépin, *Théologie cosmique* (1964) 226ff. and C. Lefèvre, ‘“*Quinta natura* et psychologie aristotélicienne’ (1971).

⁴⁴ Cf. Euseb. *P.E.* XV 6, 17: περὶ τῆς τῶν σωμάτων πέμπτης οὐσίας, ἣν εἰσηγήσατο Ἀριστοτέλης. Aug. *C.D.* XXII xi: Aristoteles quintum corpus eam dixit esse; *Gen. ad litt.* VII 21; *Trin.* X vii, 9.

⁴⁵ *Anim.* I 1, 403a6-7: ὀργίζεσθαι, θαρρεῖν, ἐπιθυμεῖν, αἰσθάνεσθαι, φαντασία and 403a17: θυμός, πραότης, φόβος, ἔλεος, θάρσος, χάρα, φιλεῖν, μισεῖν.

⁴⁶ Cic. *Tusc.* I 10, 22: ‘in horum quattuor generum inesse nullo putat’. So Cicero is not talking here about the ‘bodies of plants of animals equipped with organs’ but about elementary ‘natural bodies’. In the light of my analysis of *Anim.* II 1 in chap. 5 above it seems reasonable to assume that Cicero is pointing out here that the four sublunary elements or ‘natural bodies’ are not sufficiently suitable as ‘instrumental body’ for man’s soul.

Taken by itself the information given by Cicero here can be viewed as a form of hylozoism or materialism.⁴⁷ But there is no need to do so. The text can also be seen to reflect Aristotle's way of indicating the difference between the perfectly transcendent, immaterial *Nous* and the rational celestial beings plus rational human souls. Cicero does not say anywhere that the transcendent Intellect consists of a fifth element. On the contrary, in the text from *De natura deorum* discussed above his Epicurean source was familiar with a view of the highest divine Intellect as incorporeal (*sine corpore*). But unlike the perfectly pure Intellect, the celestial beings and humans cannot be said to be pure intellects. They are ensouled creatures whose souls possess intellectual powers.⁴⁸ Conceivably, Aristotle explained the difference by saying that the rational souls of the celestial beings and of humans are parts of the transcendental Intellect which are 'clothed in', 'tied to' a heavenly body, consisting of a fifth substance, i.e. ether.⁴⁹

In particular we can assume that Aristotle regarded the celestial beings as distinct from the transcendent Intellect through the fact that they are 'living creatures consisting of a soul principle and an ethereal body as instrumental soul-body'. We can take into account that Aristotle considered this highest soul-body to be characterized by its continual movement. But it may also be that he talked about the soul of the celestial beings as the entelechy of the natural (ethereal) body which is its instrument (*organon*) and which is characterized by its continual movement,⁵⁰ though its movement is itself 'moved', like

⁴⁷ Cf. P. Merlan, in A.H. Armstrong, *CHLGEMPh* (1967) 40-41 with n. 9 and chap. 1 above.

⁴⁸ Aristotle talks about τῆς ψυχῆς νοῦς in *Phys.* IV 14, 223a26; *Metaph.* α 1, 993b10; *Anim.* III 4, 429a22; *Mu.* 1, 391a11-12. Cf. also *Eth. Nic.* I 6, 1096b28; *Rhet.* III 10, 1411b12-13.

⁴⁹ Entirely in line with this view would be the assumption that the souls of human beings differ from those of the celestial gods because they are still clothed in 'other bodies', such as fire and air, and that they are consequently the principle of locomotion and metabolism as well. J. Pépin (1964) 231 considers such an interpretation possible in *Gener. anim.* II 3, 736b29-737a1: 'en fait, l'idée qui s'en dégage n'est pas que l'élément astral constitue la substance même de l'âme, mais simplement son substrat matériel le plus proche, son ὄχημα'.

⁵⁰ Gr. ἐνδελείχεια κίνησις. See the early article by R. Hirzel, 'Über Entelechie und Endelechie', *Rhein. Mus.* 39 (1884) 169-208. In Epiphani. *Haer.* III 31 we also find the report: καὶ τὴν ψυχὴν ἐνδελείχειαν σώματος λέγει (H. Diels, *Doxographi Graeci* 592). Likewise in Philo *Somn.* I 30, a text which is rather similar to the passage in Cicero. J. Mansfeld, *A.N.R.W.* II 36, 4 (1990) 3130 n. 344 thinks this passage is incorrect and was caused by a writing error in Cicero's source, who read a standard term instead of the specifically Aristotelian ἐντέλεια. But ἐνδελείχεια

that of *pneuma* (on a lower level). We shall have to remember, too, that Aristotle in *De generatione et corruptione* II 10, 336b31ff. calls the process of generation in the sublunary sphere ‘*entelecheia*’, and that this is the case because the power of every soul ‘has something of’ the astral element, so that the continuity of the species is guaranteed.⁵¹

Cicero, *Tusculanae disputationes* I 17, 40-41
(= Aristotle, *De philosophia* fr. 27c Ross; 995 Gigon)

As this is the case, it must be clear that, when the souls (*animos*) have left the body, whether they are breaths of life (*animales*), i.e. pneumatic (*spirabiles*), or fiery (*ignei*), they ascend. But if the soul is either a number – an assertion which is more subtle than clear –, or the fifth substance, which has no name but is at least comprehensible, these beings are much more perfect and pure, so that they move very far from the earth.

In this text, too, Cicero focuses on the human soul, the *animus*. Again he refers to a view which closely connects the human soul with a fifth element. Moreover, he talks about a survival of the soul after death of the earthly individual, and of an ascent to higher spheres, as Aristotle had argued in the *Eudemus*.

Inasmuch as perfection and purity seem correlated here with the distance from the earth, we might suppose that Aristotle placed all living creatures on a scale of quality of life in which the lower levels of life are presented as connected with a soul-body deriving from a lower, ‘more earthly’ element than those connected with a soul-body of higher quality, as he did in *De generatione animalium*.⁵²

Cicero, *Tusculanae disputationes* I 26, 65 – 27, 66
(= Aristotle, *De philosophia* fr. 27d Ross; 996 Gigon)

But if there is a fifth kind of substance (*natura*), which Aristotle introduced, this is the substance of which both the gods and (human) souls (*animi*) consist. We adopted this view in the *Consolatio* and formulated it there as follows:

66. ‘The origin of (human reasoning) souls cannot be found on earth. For souls have nothing which is mixed or composite, nothing

does occur in the tradition. Cf. Aetius, IV 2, 3; Tert. *Anim.* 5; Iambl. *apud Stob. Anthol.* I 49, 32. In Plu. *Plat. quaest.* 8, 1006D ‘*entelecheia*’ is a textual variant of ‘*entelecheia*’. For this problem, see J. Pépin (1964) 206-216. I do not agree with Pépin’s claim that this text is an argument for attributing to the early Aristotle a doctrine of the self-movement of the soul.

⁵¹ Cf. *Gener. anim.* II 3, 736b29.

⁵² Cf. *Gener. anim.* II 3, 736b31-33; III 1, 761b16-23.

that seems to be born or fashioned of earth, or anything that is moist or airy or fiery. For in these substances there is nothing that has the power of memory, intellect, or thought, nothing that retains the past and foresees the future and grasps the present. These matters are exclusively divine, and there will never be any explanation how man can share in them except from God. Therefore the substance and the power (*vis*) of the (human) soul must be peculiar, clearly disjoined from these customary and well-known substances. Accordingly, whatever it is that perceives, that possesses knowledge, that is alive and active, it is heavenly and divine and therefore it must be eternal.

And God himself, whom we can comprehend with our intellect, can only be comprehended as an intellect (*mens*) which exists by itself and is free, separated from all mortal admixture, but perceiving and moving all, and self-endowed with eternal movement.'

Of this kind and of this same substance is also the human mind (*mens humana*).

This text, too, deals with the rational, human soul (Lat. *animus*), as is shown by its listing of the functions of memory, imagination, thought, knowledge of the past, awareness of the present, and expectation of the future. And again it states that these psychic functions cannot be explained by the sublunary elementary (natural) bodies. The tenor of Cicero's report comes close to what Aristotle said in *De generatione animalium* II 3.⁵³

However, the text goes on to state that God himself, too, should be seen as Intellect (Lat. *mens*) and as unconnected and free and separate from any mortal coalescence, as an entity which perceives and moves all things, because it possesses eternal movement itself. Here it seems as if Cicero is unaware of the distinction which Aristotle makes between the celestial gods on the one hand, who are separate from all the difficulties attendant on a mortal life,⁵⁴ but are connected with an ethereal body, and the condition of the transcendent Intellect on the other hand, who is separate from all corporeality. And he also seems to attribute perception to the transcendent Intellect, though the author of *De mundo* says only that the Persian king (God) 'hears and sees everything' through mediation of his subjects.⁵⁵ Again we must suspect here that the information used by Cicero is defective, or conclude that he follows a line in which the distinction between the

⁵³ Cf. Cicero's 'singularis est igitur quadam natura atque vis animi seiuncta ab his usitatis notisque naturis' with *Gener. anim.* II 3, 736b29: Πάσης μὲν οὖν ψυχῆς δύναμις ἑτέρου σώματος ἔοικε κεκοινωνηκέναι καὶ θειοτέρου τῶν καλουμένων στοιχείων.

⁵⁴ Cf. *Cael.* II 1, 284a14; I 2, 269b15.

⁵⁵ *Mu.* 6, 398a23. Cf. *Philos.* fr. 24 Ross; 903 Gigon.

transcendent Intellect and the celestial ethereal body is bridged by the notion of the unity of the 'composite substance', by analogy with Aristotle's talk about the unity of the incorporeal soul with its instrumental body as a 'composite substance'.

When we ask what distinction, according to Aristotle, follows from the connection of the cosmic gods with a body in relation to the perfect transcendent Intellect, we can conclude from the information in the Corpus that the visible celestial beings possess desire (*orexis*) and are engaged in *praxis* and are therefore not theoretically active in a perfect sense.⁵⁶ That is to say, they are subject to emotions (*pathè*), whereas the transcendent Intellect is completely impassive (*apathès*). Finally, I conclude that there is no sound reason for doubting the reliability of Cicero's reports on the meaning of the astral substance in Aristotle's psychology.⁵⁷ The same view, probably rightly as well, is attributed to his pupil and successor Theophrastus and to Critolaus.⁵⁸

Does the celestial body of the soul finally dissolve into the celestial sphere?

Hippolytus, *Refutatio omnium haeresium* I 20, 3-4; 6

On almost every point he (sc. Aristotle) agrees with Plato, apart from his doctrine of soul. For Plato teaches that the soul is immortal, Aristotle that it continues to exist and that it later disappears by dissolving into the fifth element, which he assumes to exist besides the other four – Fire, Earth, Water, and Air –, but more subtle, like *pneuma*...

20. 6 (He teaches) that the soul of the cosmos as a whole is immortal and that the cosmos itself is eternal, but that the individual soul, as we said above, dissolves (into the fifth element).⁵⁹

⁵⁶ Cf. *Metaph.* A 7, 1072a24-b13; *Cael.* II 12, 292a20-b25.

⁵⁷ However, E. Berti, *La filosofia del <primo> Aristotele* (Milano 1997) 19 follows P. Moraux in his disqualification of Cicero's information on this point.

⁵⁸ Cf. Iambl. *Anim.* apud Stob. I 49, 32 (Wachsmuth, p. 366, 25) = Theophr. fr. 269 (ed. W.W. Fortenbaugh) and F. Wehrli, *Die Schule des Aristoteles*, Heft X (Basel 1969) fr. 17; 18.

⁵⁹ Hipp. *Haer.* I 20, 3: καὶ σχεδὸν τὰ πλεῖστα τῷ Πλάτῳ συμφωνός ἐστιν πλὴν τοῦ περὶ ψυχῆς δόγματος· ὁ μὲν γὰρ Πλάτων ἀθάνατον, ὁ δὲ Ἀριστοτέλης ἐπιδιαμένειν, καὶ μετὰ ταῦτα καὶ ταύτην ἐναφανίζεσθαι τῷ πέμπτῳ σώματι, ὃ ὑποτίθεται εἶναι μετὰ τῶν ἄλλων τεσσάρων ... λεπτότερον, οἷον πνεῦμα. 20. 6: τὴν δὲ ψυχὴν μὲν ὅλου τοῦ κόσμου ἀθάνατον εἶναι καὶ αὐτὸν τὸν κόσμον αἰδίων, τὴν δὲ καθ' ἕκαστον, ὡς προείπομεν, ἀφανίζεσθαι (ed. M. Marcovich). Cf. Hermias, *Irr.* 3: οἱ δὲ πρὸς ὀλίγον ἐπιδιαμένουσιν (H. Diels, *Doxogr. Graeci* 651). D.L. VII 156 ascribes the same theory to the Stoic Zeno of Citium: (τὴν ψυχὴν) εἶναι τὸ συμφυές ἡμῖν πνεῦμα· διὸ καὶ σῶμα εἶναι καὶ μετὰ τὸν θάνατον ἐπιμένειν· φθαρτὴν δ' ὑπάρχειν,

This text has never been classified as a fragment from one of Aristotle's lost works.⁶⁰ Indeed, in his new edition of the fragments of Aristotle's lost works O. Gigon has not included anything from Hippolytus.⁶¹ Yet it does seem to agree with other facts regarding Aristotle's psychology. And among early Christian authors Hippolytus offers by far the most information about Aristotle.⁶² We should mention here that Hippolytus seems to have been familiar, directly or indirectly, with Aristotle's *De anima*. In the seventh book of his *Refutation* he wants to show that the Gnostic Basilides and his son Isidorus mixed Christian doctrine with Aristotelian tenets. He also talks about *De anima* here. It is a muddled work, he says. 'For what he thinks about the soul in three complete discussions cannot be set out clearly. Though it is easy to reproduce his definition of the soul, what he means by it is difficult to discover. For he says that the soul is the "*entelecheia* of a natural body which is *organikon*".'⁶³ This passage and Hippolytus' further treatment of Basilides' doctrine suggest that the explanation of Aristotle's definition as given later by Alexander of Aphrodisias was not familiar to Hippolytus. Hippolytus could have been expected to remark on the discrepancy between his report and what Aristotle meant by his well-known definition if he had heard anything about the explanation proposed by Alexander of Aphrodisias.

We should undoubtedly assume that Hippolytus in the above passage is talking about man's soul as interpreted by Aristotle. His text seems to suggest that man's soul, when it no longer vitalizes the visible body, remains closely connected with the 'natural body' which ether is. Hippolytus' text probably indicates that *pneuma* is the manifestation of this astral body in the earthly situation. But when the soul, on its journey home, passes through the celestial sphere, 'the

⁶⁰ This is understandable, given the overall view that is generally taken of Hippolytus' work. See e.g. J. Mansfeld, *Heresiography in context. Hippolytus' Elenchos as a source for Greek philosophy* (Leiden 1992) 1: 'Hippolytus manipulated his sources whenever this suited his convenience', and I. Mueller, 'Hippolytus, Aristotle, Basilides', L.P. Schrenk (ed.) *Aristotle in late antiquity* (Washington D.C. 1994) 143-157, p. 157.

⁶¹ Cf. J. Mansfeld, *Heresiography* 57 with n. 1. C. Osborne, *Rethinking early Greek philosophy, Hippolytus of Rome and the Presocratics* (Ithaca 1989) can understand Gigon's procedure: 'Few of Hippolytus words can be identified as "fragments" of Aristotle' (20; cf. 33-67).

⁶² Cf. A.J. Festugière, 'Aristote dans la littérature grecque chrétienne', in id. *L'idéal religieux* 232-234.

⁶³ Hipp. *Haer.* VII 18, 5-6; see also VII 24, 1-2. Cf. A.P. Bos, 'Aristotle's doctrine of the instrumental body of the soul', *Philos. Reform.* 64 (1999) 37-51 and 'Basilides as an Aristotelianizing Gnostic', *Vigil. Christ.* 54 (2000) 20-31.

self' of the individual person casts off this astral body too (which dissolves into the ethereal sphere whence it came). Then the pure intellect can delight in eternal contemplation of the Truth and the Origin.⁶⁴

Why Orpheus had to leave behind his beloved Eurydice

This separation of the *nous*, as guide of the soul, from its soul-vehicle, may have been represented by the moving story about the journey of Orpheus, together with his wife Eurydice, from the underworld, which ends in separation when Eurydice must stay behind and cannot accompany Orpheus in his ascent to perfect light and perfect happiness.⁶⁵

The moments when man succeeds in attaining to true intellectuality during his earthly life were therefore seen by Aristotle as an anticipation of ultimate release. For in the activity of pure intellectuality the human *nous* is independent of any form of corporeality and purely directed to immaterial reality and is identical with this intellected reality.

⁶⁴ There is clearly a parallel between Hippolytus' information about Aristotle's psychology and his description of Basilides' doctrine of the 'second Sonship', who by means of the 'holy *pneuma*' as a kind of wing ascends to the outer limit of the cosmos, where the 'Sonship' must leave the *pneuma* behind because the *pneuma* is not of the same essence as the transcendent God – *Haer.* VII 22, 12-13 (ed. M. Marcovich).

⁶⁵ The relationship between Orpheus and Eurydice may have been used to illustrate the relation of the soul proper (the Intellect) and the *eidôlon* of the soul, which remains tied to cosmic reality. In the most famous version of the story Orpheus, by looking back, is responsible for the loss of Eurydice. For the various versions of the story about the descent of Orpheus, see C.M. Bowra, 'Orpheus and Eurydice', *Class. Quart.* 2 (1952) 113-126. Bowra suggests that there may have been an account of the story in which Orpheus was successful, but only for a short while, after which he had to give up his companion to Hermes, the escort of souls (120-121). But we could consider that this was presented in the philosophical myth as a consequence of the fact that Orpheus *no longer remembered* the instruction given by Hades. This motif, Orpheus' lack of memory, also plays a role in Plu. *De sera numinis vindicta* 28, 566B. It is the soul which, according to Arist. *Parva naturalia*, is the seat of perception and memory. Plu. *Facie* 945A-B also holds that the separation of intellect and soul takes place easily when the soul is less 'attached' to earthly reality. I believe it is this theme which figures in the background in Arist. *Anim.* III 4, 430a22: χωρισθεῖς δ' ἐστὶ μόνον τοῦθ' ὅπερ ἐστί, καὶ τοῦτο μόνον ἀθάνατον καὶ αἰδίων (οὐ μνημονεύομεν δέ, ὅτι τοῦτο μὲν ἀπαθές, ὃ δὲ παθητικὸς νοῦς φθαρτός). Cf. I 4, 408b27-29: διὸ καὶ τούτου φθειρομένου (i.e. the fine-material vehicle of the soul) οὔτε μνημονεύει οὔτε φιλεῖ· οὐ γὰρ ἐκείνου ἦν, ἀλλὰ τοῦ κοινοῦ, ὃ ἀπόλαυνεν· ὃ δὲ νοῦς ἴσως θεϊότερόν τι καὶ ἀπαθές ἐστίν.

It seems certain that the conception which we believe must be attributed to Aristotle on the basis of Hippolytus' text played a serious role in philosophy. But it has not been sufficiently recognized that it followed from the starting-points of 'Aristotelian dualism': (a) the intellect-in-act is wholly transcendent and (b) the soul is 'not without *sôma*'.

The Hermetic Corpus clearly followed this Aristotelian dualistic anthropology. Treatise I, the 'Poimandres', first sets out how the descent of the 'Son of God', or the *Anthrôpos*, affects the celestial spheres in that the *Anthrôpos* is clothed in their 'gifts', and he finally brings about the 'anthropogony' in the sublunary spheres. But chapters 21 and following in the treatise also describe the opposite movement, the ascent of the soul after the death of the earthly individual. On its journey through the heavenly spheres the soul casts off all 'psychic' *energeiai*, and finally arrives 'unclothed' in the nature of the Ogdoad. This is the ultimate deification for the 'I'.⁶⁶ The same Aristotelian dualism is found broadly elaborated in Hermetic Corpus X, which will be discussed in chapter 16 below.

In the great myth at the end of Plutarch's *De facie in orbe lunae*, we also find emphasized that 'purification' for man is not just a matter of his soul, but that ultimately the intellect, too, must be 'purified' of typical 'psychic' functions.⁶⁷

A comparable anthropology (but one in which, under the influence of Philo of Alexandria, *pneuma* is no longer just the soul's vehicle but, owing to a philosophical exegesis of Genesis 2:7, the highest and divine principle in man) also plays a role in Valentinian Gnosticism. Irenaeus tells us that the Valentinians regarded the soul as the 'covering of the *pneuma*', and that man must cast off his soul to become purely intelligent *pneumata*.⁶⁸

The description of Aristotle's doctrine of soul given by Hippolytus in book I 20, 4 and 6 is strongly supported by Philoponus in his

⁶⁶ C.H. I 26: γυμνωθεὶς ἀπὸ τῶν ἁρμονίας ἐνεργημάτων γίνεται ἐπὶ τὴν ὀγδοατικὴν φύσιν.

⁶⁷ On Plu. *Facie*, see the next section.

⁶⁸ Iren. *Haer.* I 7, 1: τοὺς δὲ πνευματικοὺς ἀποδυσαμένους τὰς ψυχὰς καὶ πνεύματα νοερὰ γενομένους ... Cf. A.J. Festugière (1932) 205. When Irenaeus, *Haer.* I 6, 1 reports that the Saviour 'receives as covering from the Demiurge the psychic Christ, and as covering from the *oikonomia* a body that possesses psychic substance and is aimed at becoming visible and tangible and changeable through an ineffable skill', we have reason to suspect that the Aristotelian notion of the soul's 'instrumental body' hovers in the background.

commentary on *De anima*. Aristotle held the rational soul to be entirely free of corporeality, in contrast to the irrational soul. Though the latter is free from the visible body, it is indissolubly linked to the 'pneumatic body'.⁶⁹ He says of this 'pneumatic body' that 'during a certain period it continues to exist after the departure (of the soul) from this body here'.⁷⁰ In chapter 7 we pointed to a number of texts in the Aristotelian Corpus which suggest, on a first reading, that Aristotle presented the death of an individual living creature as the consequence of the soul's departure.⁷¹

Was this view meant by Boethus, who is criticized by Simplicius/Priscianus Lydus in his commentary on Aristotle's *De anima*? Simplicius says there that Boethus held:

that the soul ... is immortal in the sense that it does not undergo death when it approaches, but that, when it [sc. death] approaches the living creature, it departs and then perishes.⁷²

There is no need to assume that the Boethus mentioned here is a Stoic of the same name, as P. Moraux does. In that case it would have been natural for Simplicius to indicate that he was reproducing a comment on Aristotle's *De anima* by someone outside of the Peripatetic or Platonistic tradition. Moraux's view depends simply on the assumption which he formulates: 'Im Rahmen der aristotelischen Entelechie-Lehre und ihrer späteren Abarten, ... konnte man zweifellos weder von einer Trennung von Seele und Leib noch von einem Austritt (ἐξισταμένην!) der Seele aus dem Leibe sprechen'.⁷³

We can add that Atticus in his virulent attack on Aristotle blames him for denying that 'demons or heroes or indeed souls live on'.⁷⁴

⁶⁹ Philop. *In De an.* 10, 4-8 (ed. M. Hayduck).

⁷⁰ Philop. *In De an.* 12, 20: καὶ ὅτι ἐπιδιαμένει μετὰ τὴν ἔξοδον τὴν ἐκ τούτου τοῦ σώματος ἐπὶ τινὰ χρόνον.

⁷¹ *Anim.* I 4, 408a28; 5, 411b8; 4, 409a29; *Part. anim.* I 1, 641a19; *Resp.* 17, 479a22.

⁷² Simplicius. *In De an.* 247, 23-26: ἵνα μὴ ὡς ὁ Βόηθος οἰηθῶμεν τὴν ψυχὴν ὥσπερ τὴν ἐμψυχίαν ἀθάνατον μὲν εἶναι ὡς αὐτὴν μὴ ὑπομένουσαν τὸν θάνατον ἐπιόντα, ἐξισταμένην δὲ ἐπιόντος ἐκείνου τῷ ζῶντι ἀπόλλυσθαι. Cf. P. Moraux, *Der Aristotelismus bei den Griechen* Bd I (Berlin 1973) 173-176. J. Glucker's representation of Boethus' position in *Phronesis* 44 (1999) 31, 'that when the soul leaves the body at death, it is itself destroyed', makes little sense.

⁷³ P. Moraux (1973) 174. Moraux is supported by F. Alesse, 'Lo Stoico Boeto di Sidone', *Elenchos* 18 (1997) 359-383.

⁷⁴ Atticus, fr. 3 = Eus. *P.E.* XV 5, 10: πρόνοιαν γὰρ ζητοῦμεν ἡμῖν διαφέρουσαν, ἥς οὐ μέτεστι τῷ μήτε δαίμονας μήτε ἥρωας μήτε ὅλως ἐπιδιαμένειν δύνασθαι τὰς ψυχὰς συγκεχωρηκότι. It seems a curious misunderstanding that these lines were attributed by H. Usener (1887) as a fragment to Epicurus (fr. 393) with reference

We would therefore do well to recognize Hippolytus' report as an important and reliable testimony. It establishes a powerful link between the information from Aristotle's surviving work and that from his lost writings, in that it shows that Aristotle always attributed immortality to the intellect in a structural sense, but not to the soul. For the *Eudemus*, too, we saw that on the one hand there are reports about the soul's return home, but on the other reports that the arguments for the soul's immortality amounted to arguments for the intellect's immortality.

The Stoic view on the prolonged but not eternal survival of human souls after death links up perfectly with this.⁷⁵

Note also that the doxographical report Ps.-Plutarch, *Placita* attributes to Aristotle the view that death is a matter of the body, not of the soul.⁷⁶

The theme of the 'first' and the 'second death'

The implication of Hippolytus' text is that the death of the human individual involves the dissolution of the visible body, but the survival of the soul-principle with its soul-body. And that later a second 'death' or separation occurs, when man's soul-principle casts off and leaves behind its pneumatic soul-body.⁷⁷ In chapter 13 we observed that the dialogue *Eudemus* probably talked about the soul's return to its heavenly fatherland, but in a context in which immortality in the proper sense was attributed to the intellect.

The motif of the 'first' and the 'second death' is found, without mention of any source, in Plutarch's work *On the face in the surface of*

to Ps. Plu. *Plac.* I 8, 882B: Περὶ δαιμόνων καὶ ἡρώων· 'Επίκουρος δ' οὐδὲν τούτων ἐγκρίνει. In the collection of Isnardi Parente (1974) this passage has rightly been omitted.

⁷⁵ Cf. D.L.VII 156 = SVF II 774 and Cic. *Tusc.* I 31, 77 = SVF II 822 and R. Hoven, *Stoïcisme et stoïciens face au problème de l'au-delà* (Paris 1971) 44-65.

⁷⁶ Ps.-Plu. *Plac.* V 25, 909F: θάνατον δ' εἶναι μόνου τοῦ σώματος οὐ ψυχῆς· ταύτης γὰρ οὐχ ὑπάρχει θάνατος.

⁷⁷ Cf. also *Anim.* II 2, 413b24-27: περὶ δὲ τοῦ νοῦ καὶ τῆς θεωρητικῆς δυνάμεως οὐδὲν πω φανερόν, ἀλλ' ἔοικε ψυχῆς γένος ἕτερον εἶναι, καὶ τοῦτο μόνον ἐνδέχεται [varia lectio: ἐνδέχεσθαι] χωρίζεσθαι, καθάπερ τὸ αἶδιον τοῦ φθαρτοῦ. Another interesting text in this connection is *Anim.* I 3, 407b2-5: ἐπίπονον δὲ καὶ τὸ μεμῖχθαι τῷ σώματι μὴ δυνάμενον ἀπολυθῆναι, καὶ προσέτι φευκτόν, εἴπερ βέλτιον τῷ νῷ μὴ μετὰ σώματος εἶναι, καθάπερ εἰωθέ τε λέγεσθαι καὶ πολλοῖς συνδοκεῖ. Aristotle adduces this against Plato's doctrine of the World Soul, which certainly possesses intellectuality (407a3-5).

the moon,⁷⁸ where it follows from the basic proposition that the intellect is so much more excellent and divine than the soul as the soul is in relation to the body,⁷⁹ and where supreme bliss is considered to be connected with the situation in which the intellect is separated from the soul.⁸⁰ The same motif is used by Justin Martyr in a context where he sinks Plato's doctrine of the soul's immortality with arguments strongly suggesting derivation from Aristotle.⁸¹

Philo, *Quis rerum divinarum heres* 283

But these are the material components (of the individual human being). However, the intelligent and celestial substance of the soul will arrive at the ether, the purest of substances, as at its Father. For according to the doctrine of the ancients there must be a fifth substance, moving in a circle, differing from the (four) elements by its superior quality. Out of this they held that the stars and the whole of heaven sprang. Accordingly, we should also view man's soul as a fragment thereof.⁸²

In 1948 P. Moraux advised the inclusion of this text in a new edition of fragments of Aristotle's lost works. Of these, Moraux believes, Philo was in any case well-acquainted with *De philosophia*.⁸³

⁷⁸ Plu. *De facie in orbe lunae* 942F and following. R.M. Jones, *The Platonism of Plutarch* (Menasha, Wi. 1916) 51 observed that 'the passage of Plutarch ... is noteworthy because it is the first preserved to us in which this idea occurs distinctly'.

⁷⁹ Plu. *Facie* 943A: νοῦς γὰρ ψυχῆς ὅσῳ ψυχῇ σώματος ἄμεινόν ἐστι καὶ θεϊότερον. This proposition in Plutarch could well be regarded as Aristotle's fundamental proposition.

⁸⁰ Plu. *Facie* 944E. A variant on this theme is found in Porph. *Sent.* 9 (E. Lamberz 1975) 4, 3-6: ὁ θάνατος διπλοῦς, ὁ μὲν οὖν συνεγνωσμένος λυομένου τοῦ σώματος ἀπὸ τῆς ψυχῆς, ὁ δὲ τῶν φιλοσόφων λυομένης τῆς ψυχῆς ἀπὸ τοῦ σώματος· καὶ οὐ πάντως ὁ ἕτερος τῷ ἑτέρῳ ἔπεται.

⁸¹ Just. *Dial.* 6, 1-2. But Justin, probably influenced by Philo of Alexandria, declares that the soul ceases to exist when God takes back the life-giving *pneuma* from it. Tatian, who says in his *Oratio* 25 (= Arist. fr. 967 Gigon): ὁ δὲ Ἀριστοτέλης τῆς ψυχῆς διαβάλλει τὴν ἀθανασίαν, is probably also referring to the fact that Aristotle attributed immortality to the intellect alone. Orig. *Cels.* II 12: τὸν Ἀριστοτέλη κατηγορεῖν τῆς ψυχῆς λόγου, is unlikely to mean that, according to Aristotle, the soul ceases to exist simultaneously with the death of the visible body.

⁸² Philo, *Heres* 283: Τὰ μὲν σωματικὰ ταῦτα, τὸ δὲ νοερὸν καὶ οὐράνιον τῆς ψυχῆς γένος πρὸς αἰθέρα τὸν καθαρῶτατον ὡς πατέρα ἀφίξεται. Πέμπτη γάρ, ὡς ὁ τῶν ἀρχαίων λόγος, ἔστω τις οὐσία κυκλοφορητική, τῶν τεττάρων κατὰ τὸ κρεῖττον διαφέρουσα, ἐξ ἧς οἱ τε ἀστέρες καὶ ὁ σύμπας οὐρανὸς ἐδόξε γεγενῆσθαι, ἧς κατ' ἀκόλουθον θετέον καὶ τὴν ἀνθρωπίνην ψυχὴν ἀπόσπασμα. The word ἀπόσπασμα here may involve a reminiscence of the 'tearing apart' of Dionysus' body by the Titans. The term seems to have a Pythagorean origin in D.L. VIII 28.

⁸³ P. Moraux, 'Une nouvelle trace de l'Aristote perdu', *Études class.* 16 (1948) 89-91; L. Alfonsi, 'Un nuovo frammento del Περί Φιλοσοφίας Aristotelico', *Hermes* 81 (1953) 45-49. However, Gigon has not included the text as a testimony to

A text like this can easily give rise to an interpretation of Aristotle's psychology as part of a purely cosmic theology.⁸⁴ But it is more natural to assume that the text is no more than a reminiscence of Aristotle's theory. Aristotle in fact identified the heavenly element as the origin of the instrumental body of man's soul, but this doctrine of soul always had an annex in the doctrine of the wholly incorporeal intellect, which Aristotle declared to be of non-cosmic origin.

In this connection we can also point out that Philo, in a passage probably going back to Aristotle, quotes a fragment from the tragic poet Euripides, which Aristotle may have thought a good formulation of his own view on the soul-body:

Things born from earth return to earth, but what is born of ethereal seed returns to the pole of heaven again; nothing that is born perishes, but is dissolved in one direction or in another and then shows its own form.⁸⁵

The doctrine of the soul's pneumatic vehicle

Proclus, *In Timaeum* III 238, 19 (ed. E. Diehl)

The younger gods produce before this (visible) body the irrational soul and another, pneumatic vehicle (*ochêma*), as Aristotle also assumed, which enters and departs together with our immortal part, but is nevertheless mortal, ...⁸⁶

Here we are dealing with the theme of the fine-material soul-vehicle, which for Proclus is a central part of his cosmology and anthropology.⁸⁷ In 1922 R.C. Kissling said about this: 'the theory of the

Aristotle's lost works. Cf. J. Pépin, *Théologie cosmique* 238-239.

⁸⁴ Cf. J. Pépin, *Théologie cosmique* 221-226; 473-488.

⁸⁵ Eur. fr. 839 ed. Nauck. Cf. Philo *Aet.* 30 = Arist. *Philos.* fr. 19b Ross; 916 Gigon; Philo *Aet.* 5; 144 and *Leg.* I 7.

⁸⁶ Procl. *In Tim.* III 238, 19 (ed. E. Diehl): οἱ νέοι θεοὶ παράγουσι πρὸ τοῦδε τοῦ σώματος τὴν ἄλογον [sc. ψυχὴν] καὶ ὄχημα ἄλλο πνευματικόν, οἷον καὶ Ἀριστοτέλης ὑπέλαβε, συνεξίον τῷ ἀθανάτῳ τῷ ἐν ἡμῖν καὶ συνεισιόν, θνητὸν δὲ ὅμως ὄν ... Cf. Proclus, *Commentaire sur le Timée*, traduction et notes par A.J. Festugière, vol. V (Paris 1968) 104: 'les dieux récents produisent avant ce corps visible, la vie irrationnelle et un autre véhicule pneumatique, telle qu'Aristote aussi l'a conçu, un véhicule qui, entrant et sortant en même temps que la partie immortelle qui est en nous, n'en est pas moins mortel, ...' Cf. also H.J. Blumenthal, *Aristotle and Neoplatonism* 112.

⁸⁷ Cf. his *In Tim.* I 5, 11 and A.J. Festugière in his commentary on *Herm. Corp.* X 13.

ὄχημα-πνεῦμα as met with in the Neo-Platonic writers represents the reconciliation of Plato and Aristotle on a subject which the former never taught and the latter was incapable of defining intelligibly'.⁸⁸ He believes that the theory in question is a result of the melting pot of the Neoplatonists, who then projected their theory back onto texts of Plato and Aristotle. Plato's text did not offer a sound basis for this. But 'according to Aristotle, too, the soul is wholly immaterial and he certainly did not assume a mystic sojourn of the soul on the stars'.⁸⁹

As to when this theory arose, Kissling says: after Plotinus.⁹⁰ The theory is present in Porphyry, Iamblichus, Syrianus, Hierocles, and Proclus. Proclus also develops a doctrine of a second 'vehicle' of the soul, which is considered to be connected with the irrational soul in particular.⁹¹

However, in the work of Galen of Pergamum from the second century AD we also find a report along the same lines. In his *De placitis Hippocratis et Platonis* he talks about the theory of perception in book VII. He compares that of the Stoics with that of other schools. He by far prefers Aristotle, with his doctrine of a 'luciform *pneuma*' as the principle of perception. Galen then continues as follows:

And if we must speak of the substance of the soul, we must say one of two things: we must say either that it is this, as it were, luciform and ethereal body, a view to which the Stoics and Aristotle are carried in spite of themselves, as the logical consequence (of their teachings), or that it is (itself) an incorporeal substance and this body is its first vehicle, by means of which it establishes partnership with other bodies.⁹²

Galen himself here seems to prefer identification of the soul with the luciform, fine-material *sôma* which plays a role in Aristotle's theory of perception, and he holds that Aristotle was effectively forced to go in

⁸⁸ R.C. Kissling, 'The ὄχημα-πνεῦμα of the Neo-platonists and the *De insomniis* of Synesius of Cyrene', *Am. J. of Philol.* 43 (1922) 318-330, p. 318.

⁸⁹ R.C. Kissling (1922) 318-320.

⁹⁰ R.C. Kissling (1922) 322.

⁹¹ R.C. Kissling (1922) 322-324.

⁹² Galen, *P.H.P.* VII 7, 25-26: εἰ δὲ καὶ περὶ ψυχῆς οὐσίας ἀποφύνασθαι χρή, δυοῖν θάτερον ἀναγκαῖον εἰπεῖν· ἢ τοῦτ' εἶναι τὸ οἶον αὐγοειδές τε καὶ αἰθερώδες σῶμα λεκτέον αὐτήν, εἰς ὃ κἂν μὴ βουλώνται κατ' ἀκολουθίαν ἀφικνοῦνται Στωικοί τε καὶ Ἀριστοτέλης, ἢ αὐτὴν μὲν ἀσώματον ὑπάρχειν οὐσίαν, ὄχημα δὲ τὸ πρῶτον αὐτῆς εἶναι τοῦτ' ὁ σῶμα δι' οὗ μέσου τὴν πρὸς τὰλλα σώματα κοινωνίαν λαμβάνει. Greek text and translation in *Galen, On the doctrines of Hippocrates and Plato*, edition, transl. and comm by P. de Lacy, III vols (Berlin 1978-1984) vol. II, 474-475. The author dates this part of the great work between AD 169 and 176 (vol. I 46).

this direction. But evidently Galen realizes that there is a fundamental difference between Stoics and Aristotle in their theories of soul. The passage therefore does imply that Galen attributes to Aristotle a doctrine of the soul as incorporeal entelechy of a fine-material, luciform *sôma* which serves the soul as a 'vehicle' and 'instrument', inasmuch as it mediates between the incorporeal soul and the visible body. Galen knows that the principle of all the human vital functions was located by Aristotle in the heart.⁹³

In an Appendix to his edition with commentary of Proclus' *Elementa theologicae*, E.R. Dodds also discussed the historical background to the Neoplatonistic theory of the 'astral body or vehicle',⁹⁴ i.e. the doctrine of a kind of soul-covering which is less material than the fleshly body and also survives the dissolution of this body, but is not purely incorporeal. Against the fashion of his time, which guesses its origin in Oriental cultures, Dodds argues that the theory was developed in circles of Greek speculation. He believes the theory of the 'astral body' is intended to bridge the gap between soul and body. The Neoplatonists have no trouble finding the theory in Plato himself, but Dodds thinks this is wrong. He continues: 'With somewhat more justice Proclus claims the authority of Aristotle'.⁹⁵

Though for Dodds Aristotle's theory of *pneuma* is far removed from the Neoplatonistic theory of *ochêma*, he does believe that 'certain features of the later ὄχημα-πνεῦμα are clearly derived from this source: its function as 'carrier' of the irrational soul, its special connection with φαντασία, its quasi-immateriality, and its "innate" character'. On Iamblichus' authority Dodds identifies 'the school of Eratosthenes and Ptolemy the Platonist and others' as those who shaped the later theory. Eratosthenes lived from 275 to 194 BC and was famous as the librarian of Alexandria. If he is the author of the theory, this means a rather early date. Dodds harbours reservations

⁹³ Cf. P. de Lacy, vol. I 64-65; 80-81; 90-91ff. Galen also attributed to Plato the doctrine of an incorporeal soul and a luciform vehicle, witness frs 9 and 13 of his commentary on the *Timaeus*. Cf. C.J. Larrain, *Galens Kommentar zu Platons Timaios* (Stuttgart 1992) 86-88.

⁹⁴ Proclus, *The Elements of Theology*. A revised text with translation, introd. and comm. by E.R. Dodds (Oxford 1933; ²1963; repr. 1971) 313-321, in connection with Procl. *Inst. theol.* 209.

⁹⁵ E.R. Dodds (1933) 315. H. Cherniss, *Aristotle's criticism of Plato and the Academy* (1944; repr. New York 1962) 602 freely talked, in connection with *Gener. anim.* II 3, 736b29-737a12, about 'the complex consisting of the soul and its "vehicle"'. Cf. J. Pépin, *Théologie cosmique* 230-231.

on this point.⁹⁶ But clearly a dating of this doctrine after Plotinus, as R.C. Kissling assumed, is nonsense, given the fact that Plotinus himself refers to it in his writings.⁹⁷

Note, however, that Dodds is willing to ascribe to a librarian or his pupils a theory which played a clear role in the history of philosophy and which evidently sets out to resolve a philosophical problem. The case is comparable with the concept of the '*quinta essentia*' which we find in Cicero but which was never snapped up in the philosophical market because nobody believed the concept could be properly attributed to Aristotle. In such situations, however, we should always start from the assumption that philosophical conceptions arise only in a clear philosophical problem situation and as an answer to such a situation. Now the doctrine of the 'pneumatic vehicle' is always a

⁹⁶ E.R. Dodds (1933) 317-318; 347-348. Cf. also G. Verbeke, *L'évolution de la doctrine du Pneuma* 359-385; J. Pépin, 'St. Augustin et le symbolisme néoplatonicien de la vêtue', *Augustinus Magister* vol. I (Paris 1954) 293-306; J. Trouillard, 'Réflexions sur l'OXHMA dans les "Éléments de Théologie" de Proclus', *R.E.G.* 70 (1957) 102-107; H. Dörrie, *Porphyrios' "Symmiktá Zetēmata"* (München 1959) 167-168; J.J. Poortman, *Ochēma. Geschiedenis en zin van het hylicsch pluralisme* (Assen 1967) dl. VI A, 39-50; id. *Vehicles of consciousness. The concept of hylic pluralism* 4 vols (Utrecht 1978); A. Smith, *Porphyry's place in the neoplatonic tradition. A study in post-plotinian neoplatonism* (The Hague 1974); A. Henrichs-L. Koenen, 'Der Kölner Mani-Kodex', *Z.f.P.E.* 19 (1975) 17 and 72-74; H. Crouzel, 'Le thème platonicien du "véhicule de l'âme" chez Origène', *Didaskalia* 7 (1977) 225-238; *Porphyre, De l'Abstinence*, Livre I, texte établi et traduit par J. Bouffartigue (Paris 1977) 37-41; A. Kehl, 'Gewand (der Seele)', *R.A.C.* 10 (1978) 945-1025, esp. 955-962; S.P. Brock, 'Clothing metaphors as a means of theological expression in Syriac tradition' (1982; repr. in id. *Studies in Syriac Christianity* (Aldershot 1992) ch. XI; I.P. Culianu, *Psychanodia* I (Leiden 1983) 11-12; 50; J.F. Finamore, *Iamblichus and the theory of the vehicle of the soul* (Chico Ca. 1985); M. Baltes, 'Platonisches Gedankengut im Brief des Evodius an Augustinus (Ep. 158)', *Vigil. Christ.* 40 (1986) 251-260; H.J. Blumenthal, 'Soul-vehicles in Simplicius', S. Gersh; C. Kannengiesser (eds), *Platonism in late antiquity* (Notre Dame 1992) 173-188; L.R. Hennessey, 'A philosophical issue in Origen's eschatology: the three senses of incorporeality', R.J. Daly (ed.), *Origeniana quinta* (Louvain 1992) 373-380; H.S. Schibli, 'Origen, Didymus, and the vehicle of the soul', R.J. Daly (ed.), *Origeniana quinta* (Louvain 1992) 381-391; id. 'Hierocles of Alexandria and the vehicle of the soul', *Hermes* 121 (1993) 109-117; J. Pépin, 'Pourquoi l'âme automotrice aurait-elle besoin d'un véhicule? (Nouveaux schèmes porphyriens chez St. Augustin, II)', J.J. Cleary (ed.), *Traditions of platonism. Essays in honour of J. Dillon* (Aldershot 1999) 293-305. For a popular treatment of this subject, see H. van Dongen; J.L.F. Gerding, *Het voertuig van de ziel. Het fijn-stoffelijk lichaam: beleving, geschiedenis, onderzoek* (Deventer 1993) 68-84.

⁹⁷ Cf. Plot. *Enn.* I 6 [1] 8, 23-24 and 7, 5: ἀποδουμένοις ἃ καταβαίνοντες ἡμυφισμεθα ... γυμνοῖς ἀνιέναι. III 6 [26] 5, 25-29 (with comm. by B. Fleet, Oxford 1995, 144); II 2 [14] 2, 21-22; IV 3, [27] 15, 1-4; IV 3 [27] 9, 5; 17, 1. See also Orig. *Resurr.* III 17 ed. N. Bonwetsch, *G.C.S.* 413, 17. Cf. Photius, *Biblioth. codex* 234, 300B ed. R. Henry, vol. V, p. 105: τὸ τῆς ψυχῆς ἅμα τῇ ἀπαλλαγῇ ὄχημα, ὁμοειδὲς ὃν τῷ παχεῖ καὶ τῷ γήινῳ σώματι.

doctrine in which the vehicle is the vehicle *of something else*, namely an incorporeal soul-principle. And its functions always is to mediate between the incorporeal soul-principle and the visible body. The philosopher who first demonstrated the need for such a mediation in his criticism of Plato's theory of soul was Aristotle.⁹⁸

It makes sense in this connection to mention a criticism which Alexander of Aphrodisias urged against the notion of an *ochêma* of the soul. This criticism is found in Simplicius' commentary on Aristotle's *Physics*. In book VI Aristotle makes a fundamental objection to the Atomists that movement / change can only belong to something which possesses parts.⁹⁹ An '*atomon*', i.e. a body which is indivisible, therefore cannot possess movement. In his commentary on this passage Simplicius notes that Alexander of Aphrodisias used these lines for his own very specific view of the soul, namely that the soul cannot be separate from the body.¹⁰⁰ For Alexander established that the soul is an entity without parts. Such an entity cannot move and so cannot separate from the body.

Interestingly, Alexander also said according to Simplicius: 'To avoid this difficulty some have enclosed it [the soul] in a kind of body as *ochêma*. They did not realize that in this way they either assert that a body can be present through another body, ... or they allow the soul to separate from this body too and move independently, when it enters bodies.'¹⁰¹

This is a remarkable statement by Simplicius because Alexander of Aphrodisias is called here as witness to the information that the doctrine of the soul's *ochêma* was motivated by the observation of 'some' that the soul cannot move *by itself* and requires a *sôma* for its movement. It was in fact Aristotle who had argued that the soul cannot possess movement by itself.¹⁰² And it was Aristotle who had declared

⁹⁸ Cf. G. Movia, *Anima e intelletto. Ricerche sulla psicologia peripatetica da Teofrasto a Cratippo* (Padova 1968) 160.

⁹⁹ Arist. *Phys.* VI 4, 234b10-20.

¹⁰⁰ Simpl. *In Phys.* (ed. H. Diels) 964, 14: ἐν δὲ τούτοις ὁ Ἀλέξανδρος εἰς τὴν οἰκείαν περὶ ψυχῆς ὑπόθεσιν πάντα ἔλκων τὴν λέγουσαν ἀχώριστον εἶναι τοῦ σώματος τὴν ψυχὴν.

¹⁰¹ Simpl. *In Phys.* 964, 19: τοῦτο δέ, φησὶν, τὸ ἄτοπον φεύγοντες τινες ὄχημα αὐτῇ σῶμά τι περιάπτουσι, καὶ λανθάνουσι ἑαυτοὺς διὰ τούτου ἢ σῶμα διὰ σώματος χωρεῖν λέγοντες (εἴ γε ἡ ψυχὴ εἰς πᾶν εἰσκρίνεται τὸ σῶμα, οὐσα μετὰ σώματος), ἢ καὶ τούτου χωρίζοντες αὐτὴν καὶ κινούντες καθ' αὐτὴν ἐν τῇ εἰς τὰ σώματα εἰσκρίσει.

¹⁰² Arist. *Anim.* I 3, 406a2.

in his biological works that *pneuma*, as instrument of the soul, is present throughout the visible body.

It may therefore be that the ‘some’ whom Alexander talked about are people who according to Alexander introduced a doctrine of a soul-vehicle because they were philosophically inept, but who in fact argued that this doctrine was Aristotelian (which Alexander rules out because in his view Aristotle could never have made such philosophical blunders).¹⁰³

A body radiant like light

In the text of Galen, *De placitis Hippocratis et Platonis* quoted above we found in passing the concept of an ‘as it were luciform and ethereal body’.¹⁰⁴ In my view, this combination of words unmistakably shows traces of ‘Aristotelian dualism’ too. The words are a description of the soul and, more in particular, of the soul’s substance. On the one hand the term ‘luciform’ is intended to keep the soul as far as possible from the ordinary, material world. On the other hand, there is talk of a *sôma*, which clearly indicates an Aristotelian theory of soul. The use of the term ‘ethereal’ reinforces the reference to Aristotle.¹⁰⁵

Origen the Church Father uses the same expression for the soul’s substance.¹⁰⁶ But in various late pagan authors we also find this combination.¹⁰⁷ It is seen earlier, too, in Hippolytus, who attributes to

¹⁰³ The passage in Simplicius is the subject of an interesting study by M. Rashad, ‘A “new” text of Alexander on the soul’s motion’, R. Sorabji (ed.), *Aristotle and after* (London 1997) 181-195. But the study suffers from Rashad’s failure to distinguish sufficiently between the question of the soul’s ‘movement’ and the problem of the ‘entrance of the intellect’.

¹⁰⁴ Galen, *PHP* VII 7, 25: ἀύγοειδές τε καὶ αἰθερώδες σῶμα.

¹⁰⁵ Cf. Plu. *Facie* 928C: τοῦ αἰθέρος τὸ μὲν ἀύγοειδές, in a doxographical report on the Stoa.

¹⁰⁶ Orig. *Cels.* II 60: τὴν ὑφ’ ἑσθηκυῖαν ἐν τῷ καλουμένῳ ἀύγοειδεῖ σῶματι ψυχὴν. In this passage Origen links up with Pl. *Phd.* 81d. Cf. H. Crouzel (1977) 228; A.J. Festugière, ‘De la doctrine “origéniste” du corps glorieux sphéroïde’, *R.S.T.P.* 43 (1959) 81-86. For the theme of the ‘luciform body’, see also *In Mt.* XVII 30: γίνεσθαι τοιαῦτα, ὅποια ἐστὶ τὰ τῶν ἀγγέλων σώματα, αἰθέρια καὶ ἀύγοειδές φῶς. (This led to the proposition that the bodies of resurrected people and of the resurrected Lord must be spherical! Cf. A.J. Festugière, 1959).

¹⁰⁷ Philop. *In De an.* 18, 26: σῶμα οὐράνιον καὶ διὰ τοῦτο αἰδῖον, ὃ φασιν ἀύγοειδές ἢ ἀστροειδές. Plu. *De sera numinis vindicta* 26, 565C calls the ἀύγοειδῇ γίνεσθαι of the soul the final phase of the purifying process which the soul undergoes posthumously; Procl. *In Tim.* 33BC (vol. II 81, 19-21 Diehl): ἄνω γὰρ μένοντες οὐδὲν δεόμεθα τούτων τῶν πολυειδῶν ζωῶν καὶ τῶν μεριστῶν ὀργάνων, ἀλλ’ ἀρκεῖ τὸ ὄχημα τὸ ἀύγοειδές, πάσας ἔχον ἠνωμένως τὰς αἰσθήσεις. Id. *In Tim.*

Plato a doctrine that the soul has a '*sôma augoeides*'.¹⁰⁸ Hippolytus cannot have borrowed this terminology from Plato's *Timaeus*, which he is explaining in this context, for Plato does not use the term '*augoeides*' anywhere (nor for that matter does Aristotle in his extant work). Hippolytus must have used here a tradition in which Aristotle's doctrine of the soul-body was read back into Plato's *Timaeus* almost as a matter of course.¹⁰⁹

It is curious that Philo of Alexandria can also use the term 'radiant like light' when talking about intelligible reality.¹¹⁰

The text in Proclus mentioned earlier accords well with a remarkable passage in

Ps.-Plutarch, *De Homero*:

Plato and Aristotle considered the soul to be incorporeal, and always to be connected with body and to require this as a vehicle. Hence, when freed from the body, it often draws the pneumatic matter with it, retaining like a wax tablet the shape it had by virtue of the body.¹¹¹

In his publication of the text J.F. Kindstrand dates this work to the end of the second century AD,¹¹² as do J.J. Keaney and R. Lamberton.¹¹³

33C (vol. II 85, 2-5 Diehl): αἱ δὲ μερικαὶ ζωαί, ὅσαι γενέσκει κεκοινωνήκασιν, ὀργάνοις χρώμεναι τοῖς αὐγοειδέσιν ὀχήμασι, σύμμικτον ἔχουσι αἴσθησιν ἀπὸ τε πάθους καὶ γνώσεως. Id. In *Tim.* 44 CD (vol. III 355, 16): τὸ μὲν αὐγοειδὲς ὄχημα τῷ οὐρανῷ, τὸ δὲ θνητὸν τοῦτο τῷ ὑπὸ σελήνῃν (sc. τέτακται). See also Iambl. *Myst.* 5, 10, 3; Hermias, In *Phdr.* 69, 18C; Simpl. In *Phys.* 615, 31-35; Suda s.v.

¹⁰⁸ Hipp. *Haer.* I 19, 10. Cf. W. Deuse (1983) 107.

¹⁰⁹ Cf. Orig. *Cels.* IV 56 (329, 11-15 Koetschau): εἰ μὴ ἄρα ἐνταῦθα ὁ Κέλσος θλιβόμενος ἀποπηδήσεται μὲν ἀπὸ Πλάτωνος, τοῦ ἔκ τινος κρατῆρος τὴν ψυχὴν ποιοῦντος, προσφεύζεται δὲ Ἀριστοτέλει καὶ τοῖς ἀπὸ τοῦ Περιπάτου, ἅλлон φάσκουσιν εἶναι τὸν αἰθέρα, καὶ πέμπτης παρὰ τὰ τέσσαρα στοιχεῖα αὐτὸν εἶναι φύσεως and W. Deuse (1983) 106-107.

¹¹⁰ Philo, *Opif.* 30: τοσοῦτω γὰρ τὸ νοητὸν τοῦ ὁρατοῦ λαμπρότερόν τε καὶ αὐγοειδέστερον ὥσπερ ἥλιος, οἶμαι, σκότους καὶ ἡμέρα νυκτός καὶ νοῦς, ὁ τῆς ὅλης ψυχῆς ἡγεμών, ὀφθαλμῶν σώματος.

¹¹¹ Ps.-Plu. *Hom.* 2, 128: Πλάτων δὲ καὶ Ἀριστοτέλης τὴν ψυχὴν ἀσώματον εἶναι ἐνόμισαν, αἰεὶ μέντοι περὶ σῶμα εἶναι καὶ τούτου ὥσπερ ὀχήματος δεῖσθαι· διὸ καὶ ἀπαλλασσομένην τοῦ σώματος τὸ πνευματικὸν ἐφέλκεσθαι πολλάκις καθάπερ ἐκμαγεῖον ἦν ἔσχεν τῷ σώματι μορφήν διαφυλάσσουσιν. (ed. J.J. Keaney; R. Lamberton, [Plutarch], *Essay on the life and poetry of Homer* (Atlanta 1996) 200; J.F. Kindstrand, [Plutarchus], *De Homero* (Leipzig 1990) reads: περὶ τὸ σῶμα, but without any sound basis in the manuscript tradition; and ἔσχε (ν ἐ) ν τῷ.

¹¹² [Plu.] *De Homero* (Leipzig 1990) x.

¹¹³ J.J. Keaney, R. Lamberton (1996) 9. F. Buffière, *Les mythes d'Homère et la pensée grecque* (Paris 1956; repr. 1973) 72-77 computes a date fifty years earlier; cf. 402.

This interesting work was recently republished, translated, and provided with an informative introduction by J.J. Keaney and R. Lamberton. They believe that the treatise cannot be by Plutarch, but that its author was most probably familiar with Plutarch's work and lived at the end of the second century AD.¹¹⁴ Keaney and Lamberton specify the philosophical position of the author as follows:

'The author is, then, neither a Platonist nor a Stoic and, though he understates his position, he shares the disapproval of the Epicureans and related "hedonists" that is a commonplace of the (non-Epicurean) literature of the Roman Empire. He often presents Aristotelian or Peripatetic doctrines as acceptable, yet he speaks with respect of the teachings of "Pythagoras and Plato", an attitude that might seem contradictory. From our modern perspective, however, we are inclined to make too much of the conflict between Plato and Aristotle and to forget that Aristotle was an ally and not an enemy for much of the later Platonic tradition'.¹¹⁵

Keaney and Lambert opt with reservations for an Aristotelian position of the author. This would be more convincing if they did not identify his views on *pneuma* as Stoic and consequently burdened him with an internal contradiction, in that he hesitated between an immortality of the soul in the style of Plato and Aristotle and a corporeality of the soul in the style of the Stoa.¹¹⁶

The passage in *De Homero* 2, 128 quoted above is so interesting because it starts by ascribing an incorporeal soul to Plato and Aristotle. For Plato this is no problem. For Aristotle it seems to go back to *De anima*, which concludes that the soul cannot be a body¹¹⁷ and says that they are right who believe that the soul 'is not without body, but is not a body itself'.¹¹⁸ But when the author of *De Homero* goes on to say that according to Plato and Aristotle the soul 'is always related to body and needs it as a vehicle', we can think of Plato's statement 'The soul in its entirety cares for all that is soulless'¹¹⁹ and of the 'chariot'

¹¹⁴ J.J. Keaney, R. Lamberton (1996) 7-9. An interesting view is proposed by R. Flacelière in *Plutarque, Oeuvres morales*, tome I, 1re partie, 'Introduction générale', lxi: 'ce dernier est regardé comme apocryphe, et pourtant ne me paraît nullement indigne de Plutarque'.

¹¹⁵ J.J. Keaney, R. Lamberton (1996) 12.

¹¹⁶ J.J. Keaney, R. Lamberton (1996) 12. Cf. 22: 'The general conception bears the imprint, especially in its historical perspective, of the Aristotelian tradition'. See also F. Buffière (1956) 74.

¹¹⁷ *Anim.* II 1, 412a17: οὐκ ἂν εἴη σῶμα ἢ ψυχή and a19-22.

¹¹⁸ *Anim.* II 2, 414a19-22.

¹¹⁹ Pl. *Phdr.* 246b.

evoked by Plato's image of the 'charioteer and his pair of horses'.¹²⁰ As for Aristotle, we can perhaps hear an echo here of the statement 'the soul should use the body as craft uses its instruments'¹²¹ and the idea that the soul-body is 'instrumental'.¹²² In that case the author of *De Homero* could well be witness to a tradition which explained 'organikon' in Aristotle's definition of the soul as 'instrumental'. The fact that the author also describes the body as an *ochêma* suggests that the question of *De anima* II 1, 413a8-9 plays a role here, namely whether the soul is the entelechy of the body in the same way as a sailor is of his ship. But the author also reports that Aristotle talked about 'liberation' of the soul and about a special relation of the liberated soul with a pneumatic body.

For a few chapters before Ps.-Plutarch states that 'Homer knew well that souls survive after death and are capable of speaking as soon as they drink blood. He knew as well that blood is the food and nourishment of *pneuma* and *pneuma* is the soul itself or the vehicle of the soul'.¹²³ Here we should not say that the author fails to choose between Stoic materialism and the Platonic/Aristotelian doctrine of the soul's incorporeality, as Keaney and Lamberton do,¹²⁴ but assume that the author knows something about Aristotle's view that the incorporeal soul is the entelechy of a material, instrumental body which serves the soul as a vehicle or vessel.

I mention in this context a passage in the recently discovered Cologne Mani codex which talks about the situation 'before I clothed myself in this instrument here and before I began my wandering in this horrible flesh'.¹²⁵

It is understandable that Kissling and Dodds saw no way clear to accepting Proclus' report that Aristotle supported the doctrine of the

¹²⁰ Pl. *Phdr.* 246a.

¹²¹ Arist. *Anim.* I 3, 407b25-26.

¹²² Arist. *Anim.* II 1, 412a28; b5.

¹²³ Ps.-Plu. *Hom.* 2, 122: τί ἄλλο ἢ τὰς ψυχὰς δείκνυσι μετὰ θάνατον διαμενούσας καὶ φθεγγομένας ἅμα τῷ πιεῖν τοῦ αἵματος; καὶ γὰρ τοῦτο ἥδει, ὅτι τὸ αἷμα νομὴ καὶ τροφή ἐστι τοῦ πνεύματος, τὸ δὲ πνεῦμα ἐστὶν αὐτὴ ἡ ψυχὴ ἢ ὄχημα τῆς ψυχῆς.

¹²⁴ J.J. Keaney, R. Lamberton (1996) 12 with n. 46 and p. 23.

¹²⁵ CMC 22, 2: .. καὶ ὁ πατήρ μου ὁ ἐν ὕψει τίς τυγχάνει ἢ ποίῳ τρόπῳ διαστὰς αὐτοῦ ἀπεστάλην κατὰ τὴν αὐτοῦ γνώμην καὶ ποίαν ἐντολήν τε καὶ ὑποθήκην δεδωρηταί μοι πρὶν ἐνδύσσωμαι τὸ ὄργανον τόδε καὶ πρὶν πλανηθῶ ἐν τῇ σαρκὶ ταύτῃ τῇ βδελυρώδει. Cf. A. Henrichs, L. Koenen, *Z.f.P.E.* 19 (1975) 24-25. Unlike Henrichs I do not believe that 'the instrument in which I clothed myself' is necessarily the visible body.

soul's pneumatic vehicle. And given the general sentiment on this point it is no surprise either that J. Pépin regarded the theme of the covering of the soul with an astral, fine-corporeal body as being mainly disseminated in the Hellenistic period, when philosophical reflection was increasingly supplanted by mythical and symbolical representations.¹²⁶ Yet we will have to accept this facet of the tradition as resulting from a profound philosophical reflection in the classical period, specifically from Aristotle's 'cybernetic-instrumentalist' psychology, until it has been convincingly demonstrated in what other philosophically relevant context this successful theory could develop.

Note, too, that *ochêma* in Greek may denote both 'vehicle' and 'vessel'. It is therefore equally related to the image of the 'charioteer' as to that of the 'steersman' with his 'helm' and that of 'sailors'.¹²⁷ By using the image of the soul in its vehicle or vessel, Aristotle, for all the objections later urged by Alexander of Aphrodisias, solved the problem that the soul itself, as an incorporeal principle, cannot possess movement of its own. Its duality with the instrumental body allows Aristotle to attribute to the soul an accidental movement, like that of a charioteer in his vehicle. In this way he fundamentally corrects Plato's image of the soul-chariot in the myth of the *Phaedrus*. We can add that for Aristotle the soul may also have been related to the figure of Odysseus, who first makes a raft and then navigates it on his way to his Fatherland.

The doctrine of the soul as eidôlon

We can connect this with a short digression on two other texts. Plutarch's work *On the face in the surface of the Moon* ends with a discussion of what happens to the soul after the death of the individual human being. The fundamental idea here is that 'the intellect is so much more excellent and divine than the soul as the soul is more excellent

¹²⁶ J. Pépin, 'St Augustin et le symbolisme néoplatonicien de la vêtue', *Augustinus Magister* vol. I (Paris 1954) 293. But see also J. Halfwassen, 'Seelenwagen', *Hist. Wörterbuch der Philos.* (Darmstadt 1995) 111-117, who believes that the theme may go back to the Old Academy.

¹²⁷ Cf. the passage in *Anim.* II 1, 413a8-9: "Ἐτι δὲ ἄδηλον εἰ οὕτως ἐντελέχεια τοῦ σώματος ἢ ψυχῇ ὥσπερ πλωτὴρ πλοίου (E. Barbotin), which has always embarrassed exegetes. This passage recognizably takes up Aristotle's criticism in I 3, 405b31-406a10. See chapter 6 above.

and divine than the body'.¹²⁸ This leads Plutarch to speak about 'dying' as a process in two phases: first the earthly body is cast off on earth; then the soul is cast off on the Moon by the intellect.¹²⁹ Of the soul which stays behind on the Moon Plutarch also says that it 'preserves as it were certain traces and dreams of life'.¹³⁰

To underline this statement the author cites the famous text from the *Odyssey* which tells of Odysseus' meeting in the underworld with the spectre of Heracles: 'Then I noticed the mighty Heracles: his spectre (*eidôlon*), for he himself was among the immortal gods'.¹³¹ This Homeric text is explained as evidence for the idea that a human being's 'self' should not be identified with emotions, or with flesh and bodily fluids, but with reason and the mind.¹³² The soul, however, receives its form from the intellect and in turn gives form to the body by enclosing it on all sides, and consequently it incorporates an imprint of the body's form. That is why, after it has been separated from both, it retains this likeness and imprint for a considerable period and is rightly called '*eidôlon*' ('spectre').¹³³ In due course these spectres 'dissolve' and are united with the substance of the Moon. But this process takes longer according to whether people lived their earthly lives less philosophically and more driven by passions. These souls experience their memories of their life on earth as in a kind of dream, like Endymion's soul.¹³⁴

The same passage from the *Odyssey* plays a role in part of the work *De Homero* mentioned above. From 2, 122 onwards the author wants

¹²⁸ Plu. *Facie* 943A: νοῦς γὰρ ψυχῆς ὅσφ ψυχὴ σώματος ἄμεινόν ἐστι καὶ θειότερον.

¹²⁹ Plu. *Facie* 943B-E.

¹³⁰ Plu. *Facie* 944E-F: λείπεται δ' ἡ τῆς ψυχῆς φύσις ἐπὶ τῆς σελήνης οἷον ἔχνη τινὰ βίου καὶ ὀνείρατα διαφυλάττουσα.

¹³¹ *Od.* 11, 601-602.

¹³² Plu. *Facie* 944F-945A: αὐτός τε γὰρ ἕκαστος ἡμῶν οὐ θυμός ἐστιν οὐδὲ φόβος οὐδ' ἐπιθυμία καθάπερ οὐδὲ σάρκες οὐδ' ὑγρότητες ἀλλ' ὧ διανοούμεθα καὶ φρονούμεν. In *Anim.* I 1, 403a7 Aristotle had designated ἐπιθυμεῖν as not taking place 'without body' and in a17 θυμός and φόβος as μετὰ σώματος. Cf. U. Bianchi, 'Plutarch und der Dualismus', *ANRW* II 36, 1 (Berlin 1987) 350-365, p. 357 n. 26. This author sees a contradiction between the passage in *Od.* 11 and *Il.* I 4.

¹³³ Plu. *Facie* 945A: ἡ τε ψυχὴ τυπούμενη μὲν ὑπὸ τοῦ νοῦ τυπούσα δὲ τὸ σῶμα καὶ περιπτύσσουσα πανταχόθεν ἐκμάττεται τὸ εἶδος ὥστε καὶ πολλὸν χρόνον χωρὶς ἑκατέρου γένηται διατηρούσα τὴν ὁμοιότητα καὶ τὸν τύπον εἰδωλὸν ὁρθῶς ὀνομάζεται. Cf. also Plu. *De sera num. vind.* 23, 564A, which also talks about souls which have departed from their earthly bodies: τύπον ἐχούσας ἀνθρωποειδῆ. ...

¹³⁴ Plu. *Facie* 945B: αἱ μὲν οἷον ἐν ὕπνῳ ταῖς τοῦ βίου μνημοσύναις ὀνείρασι χρώμεναι διαφέρονται καθάπερ ἡ τοῦ Ἐνδυμίωνος. On Endymion see also Arist. *Eth. Nic.* X 8, 1178b18-20 and my *Cosmic and meta-cosmic theology* 201-218; Ital. ed. 333-357.

to show that Homer contains not only various theological views from Greek philosophy but also the main psychological theories. To start with, the doctrine of the soul's immortality as supported by Pythagoras and Plato. One of the examples given by the author is that in the description of Odysseus' visit to the underworld Homer describes how the souls of the dead 'live on and, when they drink blood, can speak'.¹³⁵ 'Homer knew,' he continues, 'that blood is the nourishment and food for *pneuma*, and that *pneuma* is the soul itself or the soul's vehicle'.¹³⁶ Homer also states clearly that man is nothing but his soul. As his first example Plutarch mentions the passage in *Odyssey* 11, 90-91 on Teiresias, and then the lines 11, 601-602 on Heracles. He explains this in the sense that Heracles' 'self' should be identified with 'the purest part of the soul'. But Odysseus has a perception of Heracles' *eidôlon*.¹³⁷ In view of what 2, 122 says about *pneuma* as being identical with the soul or with the soul's *ochêma*, we are justified in concluding that the author presents Heracles' *eidôlon* as the fine-material vehicle of Heracles' soul.

In Porphyry we find the same theme of the *eidôlon* which consists of the pneumatic soul-body.¹³⁸

Note that the plasticity and malleability of the (fine-material) soul-substance is emphasized here in all kinds of variations. On the one hand the soul-matter preserves memories of emotions in its earthly existence. On the other hand it receives its form from the intellect.¹³⁹

¹³⁵ Ps.-Plu. *Hom.* 2, 122: τὰς ψυχὰς δείκνυσιν μετὰ θάνατον διαμενούσας καὶ φθεγγομένας ἅμα τῷ πιεῖν τοῦ αἵματος.

¹³⁶ Ps.-Plu. *Hom.* 2, 122: καὶ γὰρ τοῦτο ἥδει, ὅτι τὸ αἶμα νομῇ καὶ τροφή ἐστι τοῦ πνεύματος, τὸ δὲ πνεῦμά ἐστιν αὐτῇ ἡ ψυχῇ ἢ ὄχημα τῆς ψυχῆς.

¹³⁷ Ps. Plut. *Hom.* 2, 123: καὶ γὰρ ἐν τούτοις πάλιν ἐδήλωσεν ὅτι τὸ μὲν εἶδωλον, ὅπερ ἦν ἀποπεπλασμένον τοῦ σώματος, οὐκέτι τῆς ἐκείνου ὕλης ἐφελκόμενον ἐφαντάζετο, τὸ δὲ καθαρώτατον τῆς ψυχῆς ἀπελθὼν αὐτὸς ἦν ὁ Ἡρακλῆς (ed. Bernardakis). J.F. Kindstrand reads: εἶδωλον, ὅπερ ἦν ἀποπεπτάμενον τοῦ σώματος, οὐκέτι (τι) ... J.J. Keaney and R. Lamberton (1996) 194 follow Kindstrand except for the word ἀποπτάμενον. The mss. read ἀποπεπτασμένον and ἀποπετασμένον. Kindstrand's solution does not seem felicitous. It is not the *eidôlon* which 'flies away' from the earthly body, but the soul. Therefore a verb with the meaning 'to imprint' (ἀποπεπλάσμενον or a form of ἀπομάττω) is to be preferred, in view of the similarity to Ps.-Plu. *Hom.* 2, 128 and Plu. *Facie* 945A. On the theme of 'Heracles' spectre', cf. J. Pépin, 'Héraclès et son reflet dans le Néoplatonisme', P.M. Schuhl, P. Hadot (eds), *Le Néoplatonisme* (Paris 1971) 167-192. Earlier F. Buffière, *Les mythes d'Homère* (1956) 404-409.

¹³⁸ Porphy. *Sent.* 29 ed. E. Lamberz (1975) 18, 5-12: ἡ ψυχὴ ... ἐν "Αἰδου γίνεται ἐφελκόμενη τὸ εἶδωλον. ἐξελθούσῃ γὰρ αὐτῇ τοῦ στερεοῦ σώματος τὸ πνεῦμα συνομαρτεῖ, ὃ ἐκ τῶν σφαιρῶν συνελέξατο. ἐκ δὲ τῆς πρὸς τὸ σῶμα προσπάθειας ... ἐναπομόργνυται τύπος τῆς φαντασίας εἰς τὸ πνεῦμα καὶ οὕτως ἐφέλκεται τὸ εἶδωλον.

¹³⁹ Cf. J. Pépin (1971) 185.

Observe, too, that Aristotle used the metaphor of printing forms like a seal in wax to describe the gathering of 'impressions' through perception, which, if they endure, produce memory pictures as well.¹⁴⁰ At the same time the influx of the *nous* on the soul is for him an essential assumption of his doctrine of virtue. The way in which Philo of Alexandria describes how God's *Logos* receives the forms owing to the operation of the divine Intellect¹⁴¹ is probably also in line with an Aristotelian epistemology.

In an interesting study on the exegetical tradition regarding Heracles' *eidôlon*, which he treats more broadly than we have done here, J. Pépin sees a common element, namely the question of man's 'self'. He connects this question with the dialogue *Alcibiades I*, which has been passed down under Plato's name.¹⁴² He points out that some modern scholars have suggested that the lines in *Odyssey* 11, 602-604 were an interpolation by the Orphic author Onomacritus in the sixth century BC.¹⁴³ Others believe that the interpolation is due to Pythagoreanism.¹⁴⁴ But the pressing question is: when has philosophical reflection progressed so far that it locates man's identity not in his soul but in the intellect of the soul? In Pépin's view, this philosophical position was not developed before Plato and was first lucidly formulated in the *Alcibiades I*. The Old Academy should be seen as the place where this exegetical tradition was developed. In this connection he mentions both Xenocrates and Aristotle.¹⁴⁵

I believe that we can take a decisive step further than Pépin in his 1971 article. The fact is, the doctrine of the *eidôlon* in *De Homero* 2, 123 is wholly in agreement with the view of the 'pneumatic body' in 2, 128 cited above, and this view is ascribed there to Plato and Aristotle. Having found a reason in our new interpretation of *De anima* II 1 to regard *De Homero* 2, 128 as a reliable piece of information about Aristotle, we can assume that the passage on *pneuma* as the *ochêma* of the soul in 2, 122 and the text about Heracles' *eidôlon* also go back to Aristotle. The question of man's 'self' was also a central theme in Aristotle's lost work.

¹⁴⁰ *Mem.* 1, 450a25-b11; cf. *Anim.* II 12, 424a17-21.

¹⁴¹ Philo, *Opif.* 16-20.

¹⁴² J. Pépin (1971) 187.

¹⁴³ Onomacritus was mentioned by Aristotle in connection with the versification of Orphic doctrines. Cf. *Arist. Philos.* fr. 7 Ross; 26 Gigon.

¹⁴⁴ J. Pépin (1971) 189 and 169 n. 4.

¹⁴⁵ J. Pépin (1971) 191-192. For Aristotle the author refers to *Eudem.* fr. 5 Ross, which is discussed in chap. 13 above.

The theme of the soul's journey through the celestial spheres

The theme of the soul's journey when it has departed from the mortal body is widely discussed in the literature on Antiquity.¹⁴⁶ But there is scant agreement on the theme's background and rationale.¹⁴⁷

In connection with the aspects of Aristotelian philosophy discussed above it could be useful to take another look at the various facets of Aristotle's doctrine which forced him to develop such a conception.

(a) We have seen that Aristotle interpreted 'life' as resulting from the presence of an *incorporeal* soul-principle.

(b) We also established that, in Aristotle's view, the soul, as soul, is indissolubly linked to a 'natural body which serves it as an instrument'.

(c) We noted that Aristotle stated that the *dynamis* of every soul has something of the eternal, astral element, ether. Inasmuch as this is an eternal, imperishable element, this raises the question: what happens to this factor of ensouled living creatures when the individual living entity dies and decays?

(d) Aristotle also concluded that an incorporeal soul-principle cannot possess movement of its own, but can only move accidentally, namely with the movement of the 'natural body' with which it is inextricably connected.

(e) We have seen that Aristotle in his dialogue the *Eudemus* gave arguments for the immortality of something in human mortals.

(f) We know that Aristotle talked about the death of his friend *Eudemus* in terms of 'the return of the soul' of Eudemus to its fatherland.

¹⁴⁶ Cf. W. Anz, *Zur Frage nach dem Ursprung des Gnostizismus. Ein religionsgeschichtlicher Versuch* (Leipzig 1897), with the first chapter 'Die Lehre vom Aufstieg der Seelen als die gnostische Zentrallehre'; W. Bousset, *Die Himmelsreise der Seele* (1901; herdr. Darmstadt 1971); R. Reitzenstein, *Das iranische Erlösungsmysterium* (Bonn 1921); J. Kroll, *Die Himmelfahrt der Seele in der Antike* (Köln 1931); C. Colpe, 'Die "Himmelsreise der Seele" ausserhalb und innerhalb der Gnosis', U. Bianchi (ed.), *Le origine dello gnosticismo* (Leiden 1967) 429-445; M.A. Elferink, *La descente de l'âme d'après Macrobe* (Leiden 1968). J. Dillon, 'The descent of the soul in Middle Platonic and Gnostic theory', B. Layton (ed.), *The Rediscovery of Gnosticism I. The School of Valentin* (Leiden 1980) 357-364; A.F. Segal, 'Heavenly ascent in Hellenistic Judaism, early christianity and their environment', *A.N.R.W.* II 23, 2 (Berlin/New York 1980) 1333-1394; I.P. Culianu, *Psychanodia* vol. 1: *A survey of the evidence concerning the ascension of the soul and its relevance* (Leiden 1983); K. Alt, *Weltflucht und Weltbejahung. Zur Frage des Dualismus bei Plutarch, Numenios, Plotin* (Stuttgart 1993).

¹⁴⁷ For a distinction of various categories in the theme of the 'soul's journey', cf. I.P. Culianu (1983) 5-15.

(g) It is also certain that Aristotle sharply distinguished the sublunary sphere, where human mortals live, from the supralunary sphere of the celestial gods, and finally from the metacosmic sphere of the transcendent.

(h) For Aristotle there was no question of an 'omnipresence' of the divine. If we can talk about a 'location' of the transcendent, it should be thought '*outside*' the cosmos and '*above*' natural reality. (But Aristotle did realize that 'location' and 'place' can only properly be spoken of in relation to material entities. 'Place' characterizes a corporeal substance.)

These considerations together must have led Aristotle to talk in a philosophical context about:

- a survival and ascent of man's soul after the death of the human individual;
- but he must have presented the ascent of the soul as an ascent of the soul in an inextricable connection with its instrumental body. For only a corporeal entity has the capacity of locomotion.
- the ascent of the soul and its fine-material vehicle must have been conceived of as an ascent from the earthly, sublunary sphere to, initially, the sphere of the Moon, the boundary of the perishable part of the cosmos and the eternal, ethereal part.
- having arrived at the level of the lunar sphere, the souls must be comparable to the fiery creatures whose existence Aristotle accepted in this region, witness several passages in his work.
- but inasmuch as Aristotle's philosophy must also have been dominated by the motif of the desire to become 'like to God', the ascent of the soul must have had a further phase, namely an ascent through the spheres of the planets up to the outer celestial sphere.
- it seems that the ultimate goal of the soul's journey can only have been presented as the situation in which a perfectly pure soul reaches the outer celestial sphere and in which finally the intellect of the soul separates from the fine-corporeal soul-vehicle and, uncovered, unites with the transcendent Intellect.

Only Aristotle's philosophical conception contains all the elements mentioned, which flow necessarily from the details of his philosophical system and are motivated by his drastic correction of the Platonic doctrine of soul.

Later authors, who eagerly adopted the eschatological perspective and added to it with colourful variations, often lack one or more

aspects which make necessary the theme of the soul's ascent as a whole.

But this Aristotelian theme could also be accepted in Middle Platonist contexts, after the transcendent reality of the Ideas had been replaced in Platonism (under the pressure of Aristotle's criticism!) by the concept of a transcendent, perfectly unchangeable Intellect.

The mantic powers of the soul

Cicero *De divinatione* I 30, 63-64

(= Aristotle, *De philosophia* fr. 12a Ross; – Gigon)

When therefore the soul (*animus*) has become separated in sleep from the society and contact of the body, it remembers the past, discerns the present, and foresees the future; for the body of one who sleeps seems dead, but the soul is active and alive. ... And therefore it is much more divine (*divinior*) at the approach of death. ...

64. Proof that the dying are capable of prophesy (*divinare*) is given by Posidonius in the well-known example which he tells... Another is the example concerning Calanus... and the example in Homer of Hector, who, dying, prophesies the imminent death of Achilles.

This passage can be tied to Aristotle via the text in Sextus Empiricus,¹⁴⁸ where the prediction of Achilles' death by Hector in *Iliad* XXII 358-360 is mentioned as one of the arguments which Aristotle had brought forward to explain how the awareness of divine powers came about. B. Effe's statement 'dass Aristoteles die im Fr. 12a referierte "schamanistische" Konzeption der Traummantik nicht selbst vertreten hat' is totally unfounded.¹⁴⁹

The text can therefore be seen as attesting to the views on the soul which Aristotle elaborated in his lost works, but also for his views on the gods. It suggests, too, that for Aristotle the problem of the soul is connected with the problem of the divine. So there are sound reasons for linking this theme with Aristotle's *Eudemus*, the plot of which, also pivoting on a famous case of prophecy, is recounted by Cicero in *De divinatione*.¹⁵⁰ But because of the relation with the text in Sextus Empiricus, where the emphasis lies on knowledge of gods,

¹⁴⁸ Sextus Emp. *Math.* 9 (*Phys.* 1) 20-23 = Arist. *Philos.* fr. 12a Ross; 947 Gigon.

¹⁴⁹ B. Effe, *Studien* (München 1970) 78-88. He is supported in this view by his tutor P. Moraux (1973) 232 n. 27.

¹⁵⁰ Cic. *Divin.* I 25, 53 = Arist. *Eudem.* fr. 1 Ross; 56 Gigon.

scholars have often preferred to relate this passage to Aristotle's *De philosophia*.

The view of the (human) soul (*animus*) found in this text is one in which the soul is distinct from and independent of the visible body (*corpus*). Such a view also occurs in a group of texts connected with Aristotle's *Eudemus*. (It has therefore been often stated that Aristotle supported a Platonic and dualistic psychology in his early phase.) But these texts are by the same Cicero who, as we saw, is our crown witness to the view that Aristotle presented man's soul (*animus, mens*) as consisting of a special fifth substance, distinct from the sublunary substances of earth, water, air, and fire. And it is also Cicero who states in his *Tusculan disputations* I 26, 65 – 27, 66 that he himself, in his *Consolatio*, in line with Aristotle, argued that something which 'retains the past and foresees the future and grasps the present' must be of divine origin *and therefore* must consist of an element different from the four sublunary elements.

The most obvious idea when we consider these facts is that the doctrine of the soul's independence and survival after the death of the visible (coarse-material) body was *combined* by Aristotle with the doctrine of a special soul-matter or soul-substance, and for this reason alone differs radically from a Platonic, dualistic psychology. This Aristotelian doctrine must have been developed as an alternative to and correction of Platonic dualistic psychology. Both psychological theories talked about death as the division (*chôrismos*) between a divine, imperishable element and a perishable, visible body which goes into decay. But views on the divine component differ. The Platonic position interprets the divine as something incorporeal. The Aristotelian position links the divine soul to a fine-corporeal substance which in any case possesses physical properties too.

Our text also makes it clear that the truly divine nature of the soul is especially expressed in situations where the bond with the visible body has been loosened, viz. in the situation of sleep or imminent death. This means that Aristotle can use the motif of 'liberation of the soul' but also of 'imprisonment' and 'bondage' to the material body. But given that these truly divine functions of the soul were correlated to a special, fine-corporeal substance, it may well be that the fine-corporeal, divine substance, too, cannot manifest its full and true nature in the entourage of an earthly, visible body. We should therefore consider that, in its contact with the visible body consisting of the four sublunary elements, the special fine-corporeal substance

is *transformed* and perhaps *deformed* or *denatured*. This makes sense, because a soul-substance of divine origin is not 'in its rightful place' and 'at home' in its perishable, visible shell.¹⁵¹

How should we gauge the Aristotelian position which emerges here? Let me say first and foremost that the suggestion by H.J. Easterling¹⁵² that the *quinta natura* which Cicero attributes to Aristotle could be an 'incorporeal substance' is out of the question, given the fact that Aristotle is known to be the one who introduced a fifth natural body. I see just two alternatives:

1. The conception involving a fine-corporeal soul-substance is materialistic or physicalistic or at least hylozoistic. In that case it is the alternative to Plato's doctrine of incorporeal soul alone, or not just to this view but also to an earlier Aristotelian position which was entirely Platonic.

2. The doctrine of the fine-corporeal soul-substance is part of a different kind of Aristotelian psychology.

I think the last is right. It is possible to assume that Aristotle, like Plato, interpreted the Intellect as being oriented to immaterial objects of thought and so as wholly immaterial itself. But the Intellect, whose activity Aristotle designated as 'life' *par excellence*,¹⁵³ was also presented as the origin of all lower forms of life, like the rational existence of human beings, the irrational existence of animals, and the purely biotic existence of plants. These forms of life were observed by Aristotle in the realm of nature. If there is intellectuality in this natural and material sphere, it is (the highest) part of the soul. We can then surmise that Aristotle presented the souls of celestial beings as a principle of *nous* clothed in ethereal matter, and the souls of human beings as a principle of *nous* clothed in an analogue of ethereal matter. In comparable fashion animal and vegetable life are forms of life in which incorporeal principles are clothed in a fine-corporeal soul-body of even lower quality. In all these cases we could interpret the fine-corporeal soul-body as the instrumental body of the soul, which is its incorporeal entelechy (in accordance with the definition of 'soul' in *De anima* II 1, 412b5).

¹⁵¹ For this reason P. Moraux stated that the human soul could not possibly consist of 'the divine element', despite what Cicero had said (1963 col. 1206).

¹⁵² H.J. Easterling, '*Quinta natura*', *Mus. Helv.* 21 (1964) 75-80.

¹⁵³ *Metaph.* A 7, 1072b27.

The merit of this view of Aristotle's psychology is that it does not attribute to Aristotle a curious and capricious 'regression' to a materialistic psychology which he later abjured in *De anima*. It gives Aristotle's new psychology a clear place in the historical development of psychology by remedying an evident defect in Plato's psychology. It wants to solve the question: what is the efficient cause which gives concrete shape to the immaterial form? For precisely on this point, Aristotle believed, Plato had failed to provide an adequate answer.¹⁵⁴ It also wants to amend a defect which Aristotle observes both in Plato and in the Pythagoreans, namely their failure to say anything about 'the body which receives the soul'.¹⁵⁵

The consequence is that Aristotle talks about 'soul' as that which is distinct from the visible body, which is made up of the four sublunary elements. The soul can therefore be the fine-corporeal component in conjunction with the soul-principle, which is its guiding principle. Cicero tells us that Aristotle referred to this by the term *entelecheia*, because of its characteristic continuous movement.

But Aristotle may also have talked about the soul as the guiding principle *in itself*, apart from its physical instrumental body. Then the soul can be interpreted as *eidos* or as *entelecheia* (as formal principle or as course-determining principle) of the instrumental body. Just so Aristotle can say in the treatises of the Aristotelian Corpus that no single part of the visible body is 'without soul' (because the fine-corporeal *pneuma* as the soul's instrumental body pervades the visible body),¹⁵⁶ while at the same time he can argue that the soul need not be present throughout the visible body, but only in the heart as a citadel or centre of control.¹⁵⁷

In a parallel way Aristotle interpreted the divine, too, as the complex of the entire celestial element, the pantheon of all the visible celestial gods as the executors of God's will and orders. As such it is characterized by eternal motion. On the other hand, he can identify the principle of this ordering itself as the divine *par excellence*. In that case he talks about God as the perfect Intellect, as First Unmoved Mover, and as perfectly incorporeal (*sine corpore/carens corpore*).¹⁵⁸

¹⁵⁴ Cf. *Metaph.* A 9, 991a22-23; 991b5; 991a11; A 10, 1075b34-37.

¹⁵⁵ *Anim.* I 3, 407b21 and chap. 4 above.

¹⁵⁶ *Gener. anim.* II 1, 734b24; III 11, 762a21.

¹⁵⁷ *Motu anim.* 10, 703a36. Cf. *Iuv.* 4, 469a33.

¹⁵⁸ A better and more accurate distinction of various forms of 'dualism' could also have benefited the studies of W. Burkert, 'Plotin, Plutarch und die platonisierende Interpretation von Heraklit und Empedokles', J. Mansfeld; L.M. de Rijk

I mentioned above in passing a report in Sextus: Aristotle stated that people became aware of the existence of gods by phenomena relating to the soul and the stars. Sextus specifies the psychic phenomena which lead to awareness of gods as: cases of ecstasy and mantic powers acquired during sleep.

For, he [Aristotle] says, when the soul gets by itself in sleep, it regains its true nature and then foresees and foretells the future. It is also in such a condition when it is severed from the body at death.¹⁵⁹

Sextus then mentions the famous examples of the prophesies by Patroclus and Hector regarding the imminent death of those who killed them. Given that these cases involve not the realization of theoretical intellectuality but knowledge of future events in the sublunary sphere, it may be that the Aristotelian text cited by Sextus refers to the departure of the fine-material soul-body from the visible body. M. Detienne linked this to a text in Aelianus which says:

The Peripatetics say that in the daytime the soul is subservient to the body and is interwoven with it and is (consequently) incapable of contemplating the truth unhampered. But at night it is released from this subservience and is concentrated in the chest region and then obtains mantic powers, as is shown by dreams.¹⁶⁰

A relevant tradition in this connection is that Aristotle was interested in phenomena relating to hypnosis and suspended animation. Fresh attention was focused on this tradition by P. Boyancé in an interesting article on a fresco discovered in a catacomb under the Via Latina in Rome in 1956.¹⁶¹ The fresco shows a group of persons sitting around a figure lying on the ground. One of the sitting persons, for spectators right of the central figure, has a rod in his hand with which

(eds), *Kephalaion. Studies ... offered to C.J. de Vogel* (Assen 1975) 137-146; J. Mansfeld, 'Heraclitus, Empedocles, and others in a Middle Platonist cento in Philo of Alexandria', *Vigil. Christ.* 39 (1985) 131-156; D. Zeller, 'The life and death of the soul in Philo of Alexandria. The use and origin of a metaphor', *Studia Philonica Annual* 7 (1995) 19-55; J. Glucker, 'A platonic cento in Cicero', *Phronesis* 44 (1999) 30-44; H. Tarrant, 'Recollection and prophesy in the *De divinatione*', *Phronesis* 45 (2000) 64-76.

¹⁵⁹ Sext. Emp. *Math.* 9, 20-23 = Arist. *Philos.* fr. 12a Ross; 947 Gigon.

¹⁶⁰ Aelianus, *Var. Hist.* II 11 (ed. R. Hercher). Cf. M. Detienne, 'De la catalepsie à l'immortalité de l'âme. Quelques phénomènes psychiques dans la pensée d'Aristote, de Cléarque et d'Héraclide', *La nouvelle Clío* 10 (1958) 126-127.

¹⁶¹ P. Boyancé, 'Aristote sur une peinture de la Via Latina', *Mélanges E. Tisserant*, vol. IV, 1re partie (Città di Vaticano 1964) 107-125. Cf. R.A. Gauthier; J.Y. Jolif, *Aristote. L'Éthique à Nicomaque*, 2e ed. (Louvain 1970) vol. I 12-13. See also M. Simon, 'Remarques sur la catacombe de la Via Latina', *Mullus. Festschrift T. Klauser* (Münster 1964) 327-335, p. 329.

he is touching the person on the ground. Boyancé argues that the fresco represents an event which Clearchus of Soloi, a pupil of Aristotle, describes in his lost work *On sleep*.¹⁶² In this story a young man is hypnotized by a hypnotist in Aristotle's presence. He is then brought out of hypnosis by means of a rod.

Proclus, *In Rempublicam* II 122, 22

That the soul can leave the body and return to it is shown by (the story about) the man of whom Clearchus says that he used his hypnotizing rod¹⁶³ on a sleeping young man, so that the revered Aristotle, too, became convinced, as Clearchus describes in his work *On sleep*, that the soul can separate from the body and that it enters the body and uses it as its dwelling-place. For by touching the young man with his rod, he caused the soul to depart and while he led it away from the body by this means, he demonstrated that the body was motionless but remained unharmed, though insensible to blows as if inanimate. But after the rod had brought back the soul, which had meanwhile stayed outside the body, close to the body, it re-entered and could tell everything. For this reason the other spectators of the event but also Aristotle became convinced that the soul can be separated from the body. This, then, of which I am speaking here, that the soul can depart from the body and can return to it and can revitalize it after leaving it, this is clear from the ancient writings of eminent Peripatetics and...

The hypnotizing rod mentioned here is associated by G. Méautis with the staff of Hermes, the escort of souls.¹⁶⁴

In our interpretation, then, Aristotle's introduction of the doctrine of the special, divine fifth element is a facet of his new psychology, as an alternative to Plato's views on the World Soul and individual human

¹⁶² Procl. *In Remp.* II 122, 22 = Clearchus fr. 7 ed. F. Wehrli (*Die Schule des Aristoteles* Heft III, Basel ²1969, 11). Cf. P. Boyancé, (1964) 112 and M. Detienne, *La nouvelle Clio* 10 (1958-1960) 132-133; id. *La notion de daïmôn dans le pythagorisme ancien* (Paris 1963) 84. J. Bremmer, *The early Greek concept of soul* (Princeton 1983) 50, who concludes: 'This is a very interesting account but it is unfortunately, as many critics have pointed out, pure fiction'. But his references are not persuasive. A.J. Festugière, 'Grecs et sages orientaux' (1945; repr. in *Études de philosophie grecque*, Paris 1971, 183-195 following J. Bernays, links this hypnotist to the Jew Hyperochides, who according to Flav. Josephus, *C. Apion.* I 176-182 met Aristotle in Asia Minor (pp. 183-185).

¹⁶³ For 'hypnotizing rod', the Greek text has: τῇ ψυχουλκῷ ῥάβδῳ, i.e. 'the rod which attracts the soul'.

¹⁶⁴ G. Méautis, 'La baguette magique', *R.E.A.* 31 (1929) 227-229. Cf. also D.L. VIII 31. Méautis refers to the famous text in Hom. *Od.* 24, 2-4, which describes how Hermes directs the souls of Penelope's killed suitors to Hades, while they squeak like bats in a dark cave.

souls. Jaeger's theory, that the doctrine of the fifth element resulted from new, accurate calculations made by the circle of Eudoxos and Philip of Opus regarding the relative volumes of the elements, so that the doctrine is entirely determined by the perspective of cosmic physics,¹⁶⁵ should be relegated to the realm of (pseudo-scientific) hypotheses.

There is a further detail which slots in with this Aristotelian train of thought.

Hermias, *Irrisio* 2

Some of them say that the soul is fire, others air, others *nous*, still others movement, or exhalation; there are those who take it to be a *dynamis* which flows out from the stars, or a number which causes movement, spermatric fluid, or a harmony of the four elements.¹⁶⁶

The view that the soul is 'a *dynamis* which flows out from the stars' is linked by J. Otto in his edition of the text¹⁶⁷ with Alcmeon and with Plato's *Timaeus* 41d and following. In my view, however, the relation with Aristotle is more obvious.

An almost identical text to the one in Hermias forms part of Ps.-Justin, *Cohortatio ad Graecos* 7, 2. The authorship of this text has recently been assigned to Marcellus of Ancyra by C. Riedweg.¹⁶⁸

In connection with this theory about an astral *dynamis*, we should finally mention a remarkable *Problem* discussed by Alexander of Aphrodisias, in which he shows that according to an existing theory a *dynamis* deriving from the astral element is responsible for the differences between living and lifeless things in the sublunary sphere.¹⁶⁹

¹⁶⁵ W. Jaeger, *Aristotle* 154.

¹⁶⁶ Herm. *Irr.* 2: οἱ μὲν γὰρ φασιν αὐτῶν ψυχὴν εἶναι τὸ πῦρ, οἱ δὲ τὸν ἀέρα, οἱ δὲ τὸν νοῦν, οἱ δὲ τὴν κίνησιν, οἱ δὲ τὴν ἀναθυμίασιν, οἱ δὲ δύνάμιν ἀπὸ τῶν ἄστρον ῥέουσιν, οἱ δὲ ἀριθμὸν κινητικόν, οἱ δὲ ὕδωρ γονοποιόν, οἱ δὲ τῶν τεσσάρων στοιχείων ἁρμονίαν...

¹⁶⁷ Hermias, *Irrisio gentilium philosophorum*, ed. I.C.T. Otto (Corpus Apol. Chr. Saeculi secundi, vol. IX (repr. Wiesbaden 1969), *ad loc.* Cf. Hermias, *Satire des philosophes païens* introd., texte crit., notes, appendices et index par R.P.C. Hanson; trad. par D. Jousset (Paris 1993).

¹⁶⁸ Ps. Justinus (Markell von Ankyra?), *Ad Graecos de vera religione* (bisher 'Cohortatio ad Graecos'). Einl. und Komm. von C. Riedweg, II vols (Basel 1994). The author connects the view in question with Pythagoras (part II 271).

¹⁶⁹ Alex. Aphrod. *Quaestio* II 3, 47, 28-50, 27 ed. I. Bruns. R.W. Sharples, *Alexander of Aphrodisias, Quaestiones* I. 1 - 2. 15 (London 1992) 94 n. 307 refers to [Arist.] *De mundo* 6, 398b7.

Concluding this section, we have established that a large number of authors in the Hellenistic period ascribe to Aristotle a view on a special soul-body which cannot be reconciled with the traditional explanation of *De anima* II 1. But there is never any awareness of a major discrepancy between the theory of the soul-body and a different psychological view. None of the authors discussed above from the time after Aristotle show any knowledge that Aristotle also supported a hylomorphistic psychology in the sense current since Alexander of Aphrodisias. It is precisely this absence of any trace of hylomorphism in the first five hundred years after Aristotle's death which forms one of the most powerful arguments for the proposition that the standard hylomorphistic interpretation of *De anima* II 1 is non-Aristotelian and should be rejected.

CHAPTER FIFTEEN

THE COMPARISON OF THE STEERSMAN AND HIS SHIP IN ARISTOTLE'S LOST WORKS AND ELSEWHERE

The texts connected with Aristotle's lost works include one which supports the idea that Aristotle used the comparison of a steersman and his ship in a philosophically relevant context. Remember that in chapter 6 we looked at the intriguing text in *De anima* II 1, 413a8-9, where Aristotle suddenly asks whether the soul is perhaps the entelechy of the body 'as a sailor is of his ship'. We considered two options there, namely (a) that Aristotle wonders whether the soul, when it has reached its destination, i.e. when it has achieved intellectuality, perhaps leaves its material vehicle, as a sailor leaves his ship; or (b) that he makes room for the proposition that the soul is not present throughout its material body but is seated in a central location, just as a sailor is not everywhere in his ship but in a certain part of it.

In chapter 5 we already paid attention to *De anima* II 4, 416b25-29. Explaining there how the *anima nutritiva* regulates digestion, Aristotle makes a comparison between the hand of the steersman, the helm/rudder (and the ship). The helm is presented there as 'moving and being moved' and can therefore be interpreted as the instrumental body used by the steersman (the soul) to move the ship towards its destination. The explanation shows that vital heat is comparable in the digestive process with the helm.

In Sextus Empiricus we also read a text reporting that Aristotle compared God's government of the cosmos with that of a steersman on a ship. This text is found in a larger section where Sextus talks about how, according to earlier philosophers, people came to be aware of gods. But the argument which Sextus claims to have derived from Aristotle is concerned, not with awareness of the existence of many gods, but with awareness that one supreme principle is the cause of all order in the many movements of the celestial beings.

How man became aware of the existence of gods

Sextus Empiricus, *Against the mathematicians* 9 (*Phys.* 1) 20-23

(= Aristotle, *De philosophia* fr. 12a Ross; 14 Untersteiner; 947 Gigon)

Aristotle said that man's awareness (*ennoia*) of gods sprang from two sources: (1) the experiences of the soul and (2) the phenomena of the heavens.

(1) From the experiences of the soul, because of its inspiration (*enthousiasmos*) and prophetic power (*manteia*) which occur during sleep. For, he says, when the soul gets by itself in sleep, it then assumes its true nature and foresees (*promanteuetai*) and foretells the future. It is also in this condition when it is separated from the bodies¹ at death. He also advances the testimony of the poet Homer for this. For he has represented Patroclus, in the moment of his death, as foretelling the death of Hector, and Hector as foretelling the end of Achilles. It was from such events, he says, that men came to suspect the existence of something divine which in its essence was akin to the soul and of all beings possessed the most perfect knowledge (*epistèmonikôtaton*).

(2) In the second place from the phenomena of the heavens. For seeing by day the revolution of the sun and by night the well-ordered movement of the other stars, they concluded that a god was the cause of this movement and its order. Thus Aristotle.

This text is usually assigned to the work *On philosophy*, because Cicero² reports that the third book of this work elaborated a number of contradictory theological views. But the text itself of Sextus' passage makes it clear that the theme of the soul and of mantic dreams which we were able to establish for the *Eudemus* also played an important role in Aristotle's argumentation to which Sextus refers. In fact Sextus' text is a clear indication of the close relationship between psychology and theology for Aristotle.

It is interesting, too, that according to this text Aristotle presented the way to awareness of God's existence via the experience of two series of phenomena in physical reality which he had already characterized as divine to a certain extent: for he described all celestial beings as consisting of the celestial element and as divine, eternally

¹ Sext. Emp. *Math.* 9, 20: ἐν τῷ κατὰ τὸν θάνατον χωρίζεσθαι τῶν σώματων. The use of the plural 'bodies' is striking here, if we are to surmise that the soul is not 'without body' in any case after this separation, but is only separated from the visible body composed of the four sublunary elements. According to Arist. *Anim.* II 2, 413b24-27, only the *nous* can be separated from all corporeality.

² Cic. *N.D.* I 13, 33 = Arist. *Philos.* fr. 26 Ross; 25, 1 Gigon. See chap. 14 above.

existing beings. And he declared that the *dynamis* of every soul has something of the same astral element.³ Again we can note the typically Aristotelian epistemology: the awareness of God's existence is not a matter of *anamnesis*, as Plato had suggested, but is an insight that people can gain by inquiring into the (first) causes of phenomena which can be perceived by the senses.

Note, too, that according to Sextus Aristotle held that during sleep the soul 'gets by itself', as it does during the process of dying. The usual explanation for this is that, according to Aristotle in this lost work, an incorporeal soul in sleep loosens its bond with the body. But we could also think of the view found in the *Parva naturalia*, where sleep is said to be a condition of the '*aisthêtikon sôma*', i.e. *pneuma* in its capacity of perceptive body, and in this condition sense perception is halted because the vital *pneuma* withdraws to the heart region.⁴

The examples taken from Homer regarding the prophecies of Patroclus and Hector shortly before their deaths are again characteristic of Aristotle's literary works.⁵

But perhaps we need to interpret the process in which people 'become aware' of the existence of a being that possesses knowledge (science) in the highest measure and that is the (invisible) cause of order and movement in the heavenly spheres as the realization of the potential for intellectuality of the human soul, which he had compared in *De anima* II 1 with the condition of the soul's waking (in contrast to the condition of 'sleep' as metaphor of the soul as potency).⁶ Perhaps Aristotle here presents the train of thought which leads the natural philosopher to conclude that there must be a First Principle which transcends all visible celestial forms as the process by which the intellect-of-the-soul 'detaches itself' (*χωρίζεσθαι*) from physical, cosmic, and material reality. But we should emphasize the metaphorical nature of this 'waking' and 'sleeping'. 'Sleeping' here does not refer to the sleep of a visible living creature but to the soul as potentially endowed with intellect.

³ *Gener. anim.* II 3, 736b29-31.

⁴ Cf. *Somn.* 3, 457b1.

⁵ Cf. Dio Chrys. *Or.* 53, 1 = Arist. fr. 1002 Gigon: 'Aristotle, who is called the founder of textual criticism and grammar, also speaks about the Poet in many dialogues, usually full of admiration and praise'. The brief treatise *De mundo* contains no fewer than nine quotations from the Poet's work.

⁶ Cf. *Anim.* II 1, 412a22-27.

God as the supreme commander and governor of the cosmos

Slightly further on Sextus develops the theme of becoming aware of God's existence through the order in the celestial spheres in a way which can also be termed Aristotelian.

Sextus Empiricus, *Against the mathematicians* 9 (*Phys.* 1) 26-27
(= Aristotle, *De philosophia* 12b Ross; 26 M. Untersteiner; 948 Gigon)

Some, who witnessed the unchanging and well-ordered movement of the celestial beings, say that the very first awareness of gods arose from this. For just as, if a man seated on Mount Ida near Troy had seen the army of the Greeks approach the plain (opposite Troy) in perfect formation and order,

'first the cavalry with their horses and chariots, and next the infantry' [*Iliad* 4, 297],

such a man would certainly have concluded: there is someone who has arranged this order and commands the soldiers deployed by him, such as Nestor or some other hero who knew how

'to command the cavalry and armoured infantry' [*Iliad* 2, 554], and just as an experienced sailor, when he sees in the distance a ship approaching before the wind and with all its sails well set, understands: there is someone who directs its course and brings it into its appointed havens, so too those who first looked up to heaven and beheld the sun run its courses from its rising to its setting, and the well-ordered choral dances of the stars, were led to ask for the Maker (*Dèmiourgos*) of this most beautiful array, because they believed that it had not come about by itself, but by the agency of an imperishable being of a superior order, namely God.

Here, too, the smoothly integrated quotations from Homer are striking and entirely in keeping with Aristotle's literary style, like the hierarchical representation of the cosmos. The image of God as supreme commander is also soundly Aristotelian.⁷

The essential point in the comparison of the steersman is the conclusion on the strength of the visible and verifiable phenomena which occur in the celestial region that these celestial phenomena are not self-sufficient but compel a human being with expert knowledge and insight to assume a causal principle, though this principle itself cannot be seen or experienced. This principle is a principle of order in the cosmic movement. It must be an intellectual principle. Aristotle's argumentation is a typical example of what W. Pannen-

⁷ Cf. *Metaph.* A 10, 1075a13-16.

berg has called the *Rückschlussverfahren* of Greek philosophical theology.⁸

Someone who knows about steering a ship, when he sees from afar a ship bearing down with full sails and properly set to the wind, though he cannot see the steersman and hear his orders to the crew, it is *evident* to him that an authoritative shipmaster is coordinating the entire process and that all the activity of the crew is merely the execution of his instructions. The operation of the instrument betrays the hand of the master, or rather the skill of the master. An essential part of the image used here is that the action and movement belong to the wind and to the ship which is moved by the wind, while the steersman stands still on the afterdeck and steers the movement of the ship by the movement of his hand, a movement which is increased by the rudder, and by the orders which he issues to his crew members.

But we could take a further step and conceive of the shipmaster as standing on the afterdeck and issuing his orders to both the sailors and the steersman. Now it is only the commanding word of the shipmaster which causes the execution of his insight into what is needed for a safe passage to the harbour. An argument supporting this interpretation is that the preceding passage compares cosmic reality as a whole to a well-organized and orderly army on the march, from which an expert observer must infer the presence and involvement of a commander like Nestor or someone with similar qualities.

In that case none of the actual activities of the army is carried out by the commander himself nor of the ship by the shipmaster, but they do have their rationale and ultimate cause in the commander's strategy and the course plotted by the shipmaster.

A comparison with Plato's myth in the *Phaedrus* about the journey of the celestial gods and the souls in their retinue immediately urges itself. Plato evokes there a clever image of a highly complex movement: there is a chariot which is drawn by two horses which possess their own power of motion, but their movement is ruled by the hands and reins of the charioteer, who stands still on his chariot, but thanks to its movement moves towards his destination.⁹ However, this

⁸ W. Pannenberg, 'Die Aufnahme des philosophischen Gottesbegriffes als dogmatisches Problem der frühchristlichen Theologie', *Zeitschr. f. Kirchengeschichte* 70 (1959) 1-45; repr. in id. *Grundfragen systematischer Theologie* vol I (Göttingen 1967) 296-346.

⁹ Pl. *Phdr.* 246a ff.

famous image of the heavenly pairs of horses with their riders/charioteers was used by Plato to explain the dynamics in the cosmos as the work of divine and human souls. Plato reduced the perfection and beauty of their movements and their effect on material reality to the eternal unchangeability of the Ideas, of which they possess more or less perfect knowledge. As a result, the celestial gods, in the myth of Plato's *Phaedrus*, seem to be sovereigns in their own sphere, whose activity is not coordinated by a higher, unifying entity.

Aristotle shrewdly recognized that unity of world government must be guaranteed in a different way. He introduced the theme of absolute divine *monarchia*, and formulated it at the end of book Lambda of his *Metaphysics* by quoting Homer: 'The rule of many is not good. There should be one ruler'.¹⁰

In the comparison which Aristotle seems to have used in the lost work of which Sextus Empiricus may preserve traces, the celestial host is presented as being subordinate to one army commander or general and as the executor of his divine counsel.¹¹ In Aristotle's view, this commander or ruler belongs to a higher order than the visible gods. He is a perfectly transcendent, immaterial Intellect (*Nous*) separate from physical reality. Here, curiously, Aristotle shows another striking similarity to Plato, who in his *Phaedrus* myth had declared only the *nous* of the soul to be capable of rising above the heavens, as the boundary of somatic reality.¹² But for Aristotle this raised the new problem that he had to explain how a metacosmic principle could be the 'principle of movement' for all cosmic, material reality.

The role of God as ruler and commander of all the cosmos is also emphasized in the controversial work *De mundo*. After first making comparison with an army that positions itself for battle on the orders of the supreme commander¹³ and with a chorus which commences its performance, the author concludes: 'As a steersman on the ship,

¹⁰ Arist. *Metaph.* Λ 10, 1076a4. For elaborations of this theme, see Philo, *Conf.* 170; Just. *Dial.* 1, 3; Tatian *Or.* 14, 1.

¹¹ Philo of Alexandria follows this Aristotelian conception when he states in *Cher.* 24 that God has placed the planets in their own chariots but holds the reins himself. In this way he safeguards God's (delegated) monarchy.

¹² Pl. *Phdr.* 247c: ἡ γὰρ ἀχρώματός τε καὶ ἀσχημάτιστος καὶ ἀναφής οὐσία ὄντως οὐσα, ψυχῆς κυβερνήτη μόνῃ θεατῇ νῶ.

¹³ *Mu.* 6, 399a35-b12.

the charioteer in the chariot, the leader in the chorus, the law in the city, the general in the army, so is God in the cosmos'.¹⁴

Once we have seen that Aristotle, for fundamental philosophical reasons, replaces the image of the charioteer and his two horses in Plato's *Phaedrus* by that of the master of a ship or the commander of an army, we also understand Hermias' remark that Aristotle 'competed with his teacher in the making of chariots'¹⁵ and are given a further indication that in his lost works Aristotle used the image of a shipmaster in a polemical setting. In this connection it is interesting to take another look at Aristotle's use of the image of an automaton or winding mechanism which occurs in a number of crucial places in his work.

In *De generatione animalium* II 1 Aristotle uses this image to show that, after copulation and fertilization, the begetter of new life is no longer directly involved in the development of the new individual's vital potential; only the movement transferred to the menstrual blood by the begetter guides the 'instrumental body' and regulates the development of all the new individual's parts.¹⁶ In *De motu animalium* Aristotle takes the image of an automaton to explain how an impulse from the soul-principle instigates various processes of muscle contractions and luxations, which allow the visible body of an animal or human to move from one place to another.¹⁷ He also underlined there that subsequently the soul-principle need not produce or supervise every action.¹⁸ And he used the same image in *On the cosmos* to clarify that after the first impulse which proceeds from God the entire cosmos 'runs by itself'.¹⁹

Aristotle insisted on inferring the producer from the product. 'You can guess the maker' might have been his motto. Only not in the sense of the *executor* but in that of the *deviser*. The essential point in the images used by Aristotle is that the goal is determined by the

¹⁴ *Mu.* 6, 400b6-8: Καθόλου δὲ ὅπερ ἐν νηὶ μὲν κυβερνήτης, ἐν ἄρματι δὲ ἡνίοχος, ἐν χορῷ δὲ κορυφαῖος, ἐν πόλει δὲ νόμος, ἐν στρατοπέδῳ δὲ ἡγεμὼν, τοῦτο θεὸς ἐν κόσμῳ.

¹⁵ Hermias, *Irr.* 11 (ed. R.P.C. Hanson, Paris 1993): ζηλοτυπῶν τὸν διδάσκαλον τῆς ἄρματοποιίας.

¹⁶ *Gener. anim.* II 1, 734b4-17.

¹⁷ *Motu anim.* 7, 701b2-12. Cf. chap. 3 above.

¹⁸ *Motu anim.* 10, 703a29-703b2. For the image of the automaton, cf. also *Metaph.* A 2, 982a12-17 and W. Spoerri, 'Inkommensurabilität, Automaten und philosophisches Staunen im Alpha der <<Metaphysik>>', J. Wiesner (ed.) *Aristoteles. Werk und Wirkung*, Bd. I (Berlin 1985) 239-272.

¹⁹ *Mu.* 6, 398b14-16.

intellectual Principle, but is then linked via the image of the automaton to an instrument as *organon* or as *operator*.²⁰ As a result of these philosophical considerations, the image of the Demiurge who creates the world like a kind of craftsman retreats into the background in philosophical cosmology and gives way to other images like the 'begetting of a Son', the generation of a World Seed or World Egg (containing the *eidos* of the Begetter, but only 'potentially', 'sleeping', and still 'connected with matter').

The image of God as ruler of the cosmos also seems to have left traces in a doxographical report found in Ps.-Plutarch, *Placita*, where the author writes:

Aristotle presents the supreme deity as a transcendent form (*eidos chôriston*), standing on the globe of the cosmos, consisting of the ethereal body, which he calls the fifth.²¹

By analogy with the relation of God as perfectly transcendent Intellect and immaterial Form who is the governing principle of the entire material cosmos, through the mediation of the celestial element as instrumental body, Aristotle seems to have interpreted the relation of the soul as incorporeal form, but form immanent in matter, as the governing principle of the ensouled living creature.

God himself is not perceptible but his governing, all-dominating activity can be observed in his works, and this is also the case with the human soul.²² But the important difference is that only the soul's intellect is an entity which is truly incorporeal and exists apart from matter, whereas all other soul-functions are inextricably linked to corporeality.

But while the helm with which a ship is steered forms part of the ship as a whole, this is not true of the hand of the steersman or the steersman himself. He can leave the ship once the final destination of the voyage has been reached.²³

²⁰ Cf. Ambros. *Hexaem.* I 1: tertium ... quod operatorium dicitur.

²¹ Ps.-Plu. *Plac.* 881E: 'Αριστοτέλης τὸν μὲν ἀνωτάτω θεὸν εἶδος χωριστὸν ἐπιβεβηκότα τῇ σφαίρᾳ τοῦ παντός, ἣτις ἐστὶν αἰθέριον σῶμα, τὸ πέμπτον ὑπ' αὐτοῦ καλούμενον. The text is also found in Eus. *P.E.* XIV 16, 8. Cf. the text of Athenag. *Leg.* 6 which I quoted in chap. 14. An interesting note is added by E. des Places in his edition with translation of Eusebius (Paris 1987) 139 n. 4: 'Comme l'écrit G. Bardy dans une note à sa traduction d'Athénagore (SC 3, 1943, p. 85, n.2): "Ce n'est pas la doctrine d'Aristote qui est ici exposée mais celle du *De mundo*" et de renvoyer à A.-J. Festugière, *L'idéal religieux des Grecs et l'Évangile*, p. 232-233'. In this way Festugière's mistaken view is perpetuated.

²² Cf. *Mu.* 6, 399b10-25.

²³ Note that texts connected with Aristotle's *Protrepticus* also display the motif of

The motif of Odysseus' voyage home

It seems plausible that, for this side of the theory which he developed, Aristotle latched on to the motif of Odysseus, the seaman, who during many wanderings remains focused on the one goal, his fatherland Ithaca, where his beloved Penelope waits for him. He probably portrayed the vicissitudes of Eudemus, his friend, the exile from Cyprus, who also desired to return to his native land (and his father Themison?), after the model of Odysseus.²⁴

Plato used the same image in his *Phaedo*, when he argued that, not yet having found the Truth, he took the strongest human *logos* and, travelling on it as on a raft (*schedia*), pursued his life's journey so long as no divine *logos* was available as a sturdier vessel (*ochêma*).²⁵

Aristotle adapted this image to his own purposes and patterned the theme of life as a journey on the example of Odysseus' wanderings.²⁶ In the lost works where he talked about the soul's 'lack of freedom' and 'bondage', he no doubt outlined the road to liberation and its various stages.

Logically, the study of the *enkyklios paideia* here preceded *theôria* proper, i.e. the study of nature and the cosmos, which Aristotle compared with the sojourn on the 'Isles of the Blessed' (cf. Odysseus' stay with the Phaeacians). But the highest good and ultimate goal, in this conception, must have been acquisition of the truly comprehensive

the steersman: fr. 6 Ross; B 65 Düring; 73 Gigon; fr. 13 Ross; B 50 Düring; 73 Gigon: Μόνος γὰρ πρὸς τὴν φύσιν βλέπων ζῆ καὶ πρὸς τὸ θεῖον, καὶ καταπερανεὶ κυβερνήτης τις ἀγαθὸς ἐξ αἰδίων καὶ μονίμων ἀναψάμενος τοῦ βίου τὰς ἀρχὰς ὁρμεῖ καὶ ζῆ καθ' ἑαυτόν.

²⁴ Cf. P. Boyancé, 'Écho des exégèses de la mythologie grecque chez Philon', *Philon d'Alexandrie. Colloques nationaux* (Paris 1967) 171. Of Numenius (2nd century AD) we read in Porph. *Antr. Nymph.* 79, 19 – 80, 2 (Nauck) = Numenius fr. 33 (Des Places) that he saw Odysseus as the symbol of man in search of salvation. The same view is found in the Gnostic Naassenes; cf. Hipp. *Haer.* V 7, 37. M.J. Edwards, 'Porphyry's "Cave of the Nymphs" and the Gnostic controversy', *Hermes* 124 (1996) 88-100 thinks it likely 'that the Gnostics and Numenius drew from a common intellectual reservoir'.

²⁵ Pl. *Phd.* 85b8: τὸν γοῦν βέλτιστον τῶν ἀνθρωπίνων λόγων λαβόντα καὶ δυσελεγκτότατον, ἐπὶ τοῦτου ὁχοῦμενον ὥσπερ ἐπὶ σχεδίας κινδυνεύοντα διαπλεῦσαι τὸν βίον, εἰ μὴ τις δύναιτο ἀσφαλέστερον καὶ ἀκινδυνότερον ἐπὶ βεβαιότερου ὁχήματος, λόγου θεοῦ τινός, διαπορευθῆναι. Cf. 99d1: δεύτερον πλοῦν.

²⁶ Cf. G.A. Lucchetta, *Scienza e retorica in Aristotele. Sulle radici omeriche delle metafore aristoteliche* (Bologna 1990) 87, who shows how even 'innocent' examples used by Aristotle are associated with themes in Homer's *Odyssey*. E.g. *Phys.* II 2, 194b5: ὁ μὲν γὰρ κυβερνήτης ποῖόν τι τὸ εἶδος τοῦ πηδαλίου γνωρίζει καὶ ἐπιτάττει, ὁ δ' ἐκ ποίου ξύλου καὶ ποίων κινήσεων ἔσται in relation to *Od.* 5, 255. See also M. Sanz Morales, *El Homero de Aristotéles* (Amsterdam 1994).

knowledge which philosophy offers, knowledge of *ta exô*. Aristotle will have presented this as comparable with the union of the supreme soul-function, that of the intellect, with true Wisdom.²⁷

How the awareness of gods came about according to Cicero

The texts in Sextus Empiricus on the origin of the awareness of gods can be connected with an often quoted text found in Cicero:

Cicero, *On the nature of the gods* II 37, 95-96

(= Aristotle, *De philosophia* fr. 13 Ross; 13a Untersteiner; 838 Gigon)

Aristotle brilliantly remarks: Suppose there were men who had always lived underground in good and well-lit dwellings, adorned with statues and pictures and furnished with all the things of which those possess abundance who are usually deemed happy, and who had never gone above ground, but had learned by rumour and hearsay that there existed a certain deity and divine power; if at some time, after the earth had opened up its depths, these people could climb up from those hidden abodes and could depart from there to these regions which we inhabit, when they suddenly beheld earth and seas and skies and experienced the greatness of the clouds and the power of the winds and looked up to the sun and gained knowledge of its greatness and beauty and of its effectiveness, so that they realized that it makes the day by filling the sky with light, and on the other hand, when night overshadowed the lands, they saw the entire sky picked out and adorned with stars and when they saw the varying lights of the moon, as it waxes and wanes, the rising and setting of all these and their constant and unchanging courses throughout eternity: when they saw these, they would surely think that they are gods and that all these impressive matters are the work of gods. Thus far Aristotle.²⁸

The significant difference between Cicero's text and that of Sextus Empiricus quoted above is that Cicero does not talk about a transcendent principle which is the cause of order and movement in the celestial spheres.

We can see this text as describing a first step towards an Aristotelian theology or as indicating that Cicero takes his information

²⁷ Following on from this theme, the author of Herm. Corpus VII 1 and 2 can say that lack of *gnôsis* prevents the soul from 'dropping its anchor in the safe haven' (μὴ ἐῶσα ἐνορμίζεσθαι τοῖς τῆς σωτηρίας λιμέσι).

²⁸ On this text, see A.P. Bos, *Cosmic and meta-cosmic theology* 174-184; Ital. ed. 295-310.

from a source which no longer recognizes a transcendent reality, but has adopted the Aristotelian argument with a small adjustment to Stoic views. We should not see it as evidence of a phase in Aristotle's thought in which he supported a pure '*théologie cosmique*' which was later extended to include his doctrine of the First Unmoved Mover.

The point of comparison in the text must be that the cave-dwellers obviously knew that the splendid works of art in their subterranean dwellings were products of craftsmanship. Thus, when they beheld the beauty of the cosmos and in particular of the celestial beings and their perfect order, they would certainly conclude that this beauty also indicated the craftsmanship of the deviser of this order. Again the induction here must be from the effects to the instruments and from the instruments to the craftsmanship which guides the instruments.

Aristotle's new theology, like his new psychology, stemmed from his keen insight into the distinction between the modal mode of being of the logico-analytical and the psychic or biotic; and of his consistent distinction of the Intellect as entirely separate from all somatic reality versus the soul as structurally connected with somatic reality via its fine-material, instrumental body.

CHAPTER SIXTEEN

THE SOUL'S 'BONDAGE' ACCORDING TO A LOST WORK BY ARISTOTLE

I now want to look at the texts which are usually connected with Aristotle's lost works and touch on the soul's 'bondage'.

The soul of a mortal on earth is not 'at home', says Aristotle in his dialogue *Eudemus*. The story about the mantic dream of the expatriate Eudemus and his expectation that he 'will return home'¹ has been discussed before. It makes clear that, in Aristotle's view, the death of the human individual should be interpreted as the soul's 'return to its homeland'. This is strongly underlined by 'the revelation of Silenus' which Plutarch passes down in a literal quotation from the *Eudemus*.² It contains the theme of human life on earth as a punishment (*timôria*). The motif of human life as a punishment is central to two texts by Iamblichus and Augustine which are usually connected with Aristotle's *Protrepticus*. I want to examine these texts in more detail here. In doing so I will privilege Augustine's text, because it explicitly mentions Aristotle as the author of an image of the body-soul relationship which Cicero quotes at the end of his *Hortensius*.

The Etruscan robbers

Augustine, *Contra Julianum Pelagianum* IV 15, 78

(= Aristotle, *Protrepticus* 10b Ross; C 106: 2 Düring; 823 Gigon)

It seems significant that some of them (i.e. the pagan philosophers) approximated the Christian faith when they perceived that this life, which is replete with deception and misery, came into existence only by divine judgment, and they attributed justice to the Creator by whom the world was made and is administered. How much better and nearer the truth than yours were the views about the generation of men held by those whom Cicero, as though led and compelled by the

¹ Cic. *Div.* I 25, 53 = Arist. *Eudem.* fr. 1 Ross; 56 Gigon.

² Plu. *Mor.* (*Consol. ad Apollonium*) 115B-E = Arist. *Eudem.* fr. 6 Ross; 65 Gigon. See chapter 14 above.

very evidence of the facts, commemorates in the last part of the dialogue *Hortensius*! After mentioning the many facts we see and lament with regard to the vanity and the unhappiness of men, he says:

'From which errors and cares of human life it results that sometimes those ancients—whether they were prophets or interpreters of the divine mind by the transmission of sacred rites—who said that we are born to expiate sins committed in a former life, seem to have had a glimpse of the truth, and that that is true which Aristotle says, that we are punished much as those were who once upon a time, when they had fallen into the hands of Etruscan robbers, were killed with studied cruelty; their bodies, the living (*corpora viva*) with the dead, were bound so exactly as possible one against another: so our souls, bound together with our bodies, are like the living joined with the dead'.

Did not the philosophers who thought these things perceive more clearly than you the heavy yoke upon the children of Adam, and the power of justice of God, though not aware of the grace given through the Mediator for the purpose of delivering men?³ (transl. W.D. Ross and M.A. Schumacher.)

Compare this with the text of

Iamblichus, *Protrepticus*, 8 (47,21 – 48,9 ed. Pistelli)

(=Aristotle, *Protrepticus* 10b Ross; B 106-107 Düring; 73 Gigon):

³ The Latin text reads: Videntur autem non frustra christianae fidei propinquasse, qui vitam istam fallaciae miseriaeque plenissimum non opinati sunt nisi divino iudicio contigisse, tribuentes utique iustitiam conditori, a quo factus est et administraretur hic mundus. Quanto ergo te melius veritatisque vicinius de hominum generatione senserunt quos Cicero in extremis partibus Hortensii dialogi velut ipsa rerum evidentia ductus compulsusque commemorat. Nam cum multa quae videmus et gemimus de hominum vanitate atque infelicitate dixisset,

Ex quibus humanae, inquit, vitae erroribus et aerumnis fit ut interdum veteres illi sive vates sive in sacris initiisque tradendis divinae mentis interpretes, qui nos ob aliqua scelera suscepta in vita superiore poenarum luendarum causa natos esse dixerunt, aliquid vidisse videantur verumque sit illud quod est apud Aristotelem, simili nos affectos esse supplicio atque eos qui quondam, cum in praedonum Etruscorum manus incidissent, crudelitate excogitata necabantur, quorum corpora viva cum mortuis, adversa adversis accommodata quam aptissime colligabantur: sic nostros animos cum corporibus copulatos ut vivos cum mortuis esse coniunctos.

Nonne qui ista senserunt, multo quam tu melius grave iugum super filios Adam et dei potentiam iustitiamque, etiamsi gratiam, quae per mediatorem liberandis hominibus concessa est, non viderunt? Augustine refers to the same topic in IV 16, 83: Huius evidentia miseriae gentium philosophos nihil de peccato primi hominis sive scientes, sive credentes, compulit dicere, ob aliqua scelera suscepta in vita superiore poenarum luendarum causa nos esse natos, et animos nostros corruptibilibus corporibus eo supplicio quo Etrusci praedones captos affligere consueverant, tamquam vivos cum mortuis esse coniunctos. Given the fact that Augustine literally quotes from Cicero's *Hortensius* here, it is better to talk about a text by Cicero which supplies a fragment of Aristotle's lost work. Cf. *St. Augustine, Against Julian*, transl. by M.A. Schumacher (Washington 1957).

Which of us, looking to these facts, would think himself happy and blessed—which of us, all of whom are from the very first beginning (as they say in the initiation rites) shaped by nature as though for punishment (*timōria*)? For it is an inspired saying of the ancients that the soul pays penalties (*timōria*) and that we live for the punishment of great sins. For, indeed, the conjunction of the soul with the body looks very much like this. For as the Etruscans are said often to torture captives by chaining dead bodies (*nekrous*) face to face with the living, fitting part to part, so the soul seems to be extended throughout and affixed to all the sensitive members of the body (transl. I. Düring).⁴

In the above passage from his polemic against the Pelagian Julian, Augustine refers to Cicero's dialogue *Hortensius*,⁵ which Augustine says was meant as an exhortation to philosophy. This work, later lost, made an overwhelming impression on Augustine when he read it at the age of 19, as he describes in his *Confessions*.⁶ In retrospect he says that its effect was to make him desire the immortality of wisdom and help return him to God. It is often surmised that Cicero's model for the *Hortensius* was Aristotle's *Protrepticus*. But it may also well be that he used Aristotle's *Eudemus*, which he certainly knew and which doubtless had protreptic features as well.⁷

I note here that these texts, which are of a later date, clearly ascribe to Cicero, and by extension to Aristotle, a conception featuring:

- (a) the entire race of human mortals living on earth;
- (b) human life on earth as a form of penance and punishment;
- (c) penance and punishment for great crimes committed;
- (d) a condition of the human soul involving alienation from its proper, original (and happy) condition, owing to this punishment;

⁴ The Greek text reads: Τίς ἂν οὖν εἰς ταῦτα βλέπων οἴοιτο εὐδαίμων εἶναι καὶ μακάριος, οἱ πρῶτον εὐθὺς φύσει συνέσταμεν, καθάπερ φασὶν οἱ τὰς τελετὰς λέγοντες, ὥσπερ ἂν ἐπὶ τιμωρίᾳ πάντες; τοῦτο γὰρ θείως οἱ ἀρχαιότεροι λέγουσι τὸ φάναι διδόναι τὴν ψυχὴν τιμωρίαν καὶ ζῆν ἡμᾶς ἐπὶ κολάσει μεγάλων τινῶν ἀμαρτημάτων. πάνυ γὰρ ἡ σύζευξις τοιούτῳ τινὶ ἔοικε πρὸς τὸ σῶμα τῆς ψυχῆς. ὥσπερ γὰρ τοὺς ἐν τῇ Τυρρηνίᾳ φασι βασανίζειν πολλάκις τοὺς ἀλισκομένους, προσδεσμεύοντας κατ' ἀντικρὺ τοῖς ζῶσι νεκρούς, ἀντιπροσώπους ἕκαστον πρὸς ἕκαστον μέρος προσαρμότοντας οὕτως ἔοικεν ἡ ψυχὴ διατετάσθαι καὶ προσκεκολληθῆαι πᾶσι τοῖς αἰσθητικοῖς τοῦ σώματος μέλεσιν. For these texts, see also E. Berti, *La filosofia del primo Aristotele* (Padova 1962) 453-457; 541; revised ed. (Milano 1997) 395-398; 466.

⁵ Cf. L. Straume-Zimmermann, *Cicero's Hortensius* (Bern/Frankfurt a. M. 1976); M. T. Cicero, *Hortensius, Lucullus, Academici libri*, herausg., übers. und komm. von L. Straume-Zimmermann, F. Broemser und O. Gigon (Darmstadt 1990).

⁶ August. *Conf.* III iv, 7 – v, 9; cf. *Beata vita* 1, 4.

⁷ Cf. H. Flashar, 'Platon und Aristoteles im Protreptikos des Aristoteles', *A.G.Ph.* 47 (1965) 53-79 and A.P. Bos, 'Aristotle's *Eudemus* and *Protrepticus*: are they really two different works?', *Dionysius* 8 (1984) 19-51.

(e) a connection with traditions of ancient mysteries and initiations.

We are emphatically not dealing here with punishments in an earthly existence which are due to a previous (wicked) earthly existence of an individual or his ancestors. The human condition is presented here as being as such the result of guilt, necessarily guilt taken upon themselves by beings of a more than human status.

W. Jaeger dealt with these texts in his chapter on Aristotle's *Protrepticus*,⁸ which he dated before Plato's death. His treatment strongly influenced the entire discussion, because he believed the work did not contain an Aristotelian conception but was still entirely in line with Plato's views.⁹ Like the *Eudemus*, the *Protrepticus* proclaims, according to Jaeger, a profoundly pessimistic view of life on earth.¹⁰ To express this, Aristotle uses the language of Plato's *Phaedo*,¹¹ most notably in the comparison of the Etruscan robbers. Jaeger concluded: 'In spite of the self-tormenting crassness of this simile it bears the marks of genuine personal experience and sensitive emotion. The young Aristotle had really felt the pains of man's dualistic existence as Plato and the Orphics had felt them before him'.¹²

Following Jaeger, F. Nuyens regarded the *Protrepticus* as typical of Aristotle's early Platonizing phase.¹³ But he sees in the *Protrepticus* a distinct difference with regard to the theory of the soul. Besides the dualistic theory of the soul particularly found in the text about the Etruscan robbers,¹⁴ it contains, for the first time, a more positive, instrumentalist view of the relationship between body and soul in which the visible body is seen as the 'instrument' (*organon*) used and needed by the soul.¹⁵ Though Nuyens does not consider these two positions incompatible, he does see Aristotle's later development as an almost inevitable result of further reflection on their consequences.¹⁶ Nuyens bases his theory of an 'instrumentalist' psychology in Aristotle, as we noted in chapter 12 above, on the information in

⁸ W. Jaeger, *Aristotle* 54-101.

⁹ W. Jaeger, *Aristotle* 84: 'All the essential parts of it are in fact Platonic, not merely in language but also in content'.

¹⁰ W. Jaeger, *Aristotle* 98.

¹¹ W. Jaeger, *Aristotle* 99.

¹² W. Jaeger, *Aristotle* 100.

¹³ F. Nuyens, *Ontwikkelingsmomenten* 80-83; Fr. ed. 90-93.

¹⁴ F. Nuyens (1939) 84, n. 38; Fr. ed. 93 with n. 34.

¹⁵ F. Nuyens (1939) 83-85; Fr. ed. 93-95.

¹⁶ F. Nuyens (1939) 85; Fr. ed. 95.

Iamblichus. But Iamblichus had (wrongly) explained Aristotle's *De anima* in the same way.

I. Düring, in his edition of the texts which he believed can be related to Aristotle's *Protrepticus*,¹⁷ included Iamblichus' text as a 'fragment' (B 106-107) and Augustine's text as a 'related text' (C 106: 2). He bases this view on the hypothesis that Iamblichus' *Protrepticus* almost literally adopts large parts of Aristotle's work of the same name. In his opinion, Cicero's translation, or at least Augustine's reproduction of it, is 'remarkably washy'.¹⁸

In 1963 J. Brunschwig published a valuable study devoted to the texts about the Etruscan robbers.¹⁹ Unlike Düring, he holds that Augustine's quotation from Cicero corresponds closely to Iamblichus' text.²⁰ Brunschwig also discerns 'le pessimisme ultra-platonisant du jeune Aristote' in these texts.²¹ Plato had often drawn a sombre picture of earthly life. In the *Phaedo* he referred to the secret tradition which talked about life on earth as a 'being held in custody'.²² The playful etymology of *sôma* in the *Cratylus* links up with this: the people round Orpheus regard the body as the wall of a prison which detains the soul for the length of its penance. Or as others say: it is the sepulchral monument of the soul which is buried in it.²³ The atrocities of the Etruscan robbers seem to imply an even more negative assessment of the human situation on earth: not just imprisonment but lifelong torture.²⁴ However, Brunschwig provides an illuminating

¹⁷ Aristotle's *Protrepticus*. An attempt at reconstruction by I. Düring (Göteborg 1961).

¹⁸ I. Düring (1961) 265.

¹⁹ J. Brunschwig, 'Aristote et les pirates tyrrhéniens (A propos des fragments 60 Rose du *Protreptique*)', *Rev. philos. de la France* 88 (1963) 171-190.

²⁰ J. Brunschwig (1963) 172. Brunschwig does admit on p. 182, n. 4 that Iamblichus' *πάσι τοῖς αἰσθητικοῖς τοῦ σώματος μέλεσιν* is more precise than Augustine's rendering.

²¹ J. Brunschwig (1963) 172 with reference to W. Jaeger, *Aristotle* 100 and F. Nuyens (Fr. ed.) 90-94. On p. 171 he talks about 'la violence de son pessimisme et l'outrance étrangement baroque de son imagerie'. Of course, it would be very strange if after 353 Aristotle still held the same view which Plato presented in his *Phaedo* around 390, even if there were some historical truth in the statement of D.L. III 37.

²² Pl. *Phd.* 62b: ὡς ἔν τινι φρουρᾷ ἐσμεν οἱ ἄνθρωποι.

²³ Pl. *Crat.* 400c: σῆμα .. τῆς ψυχῆς ὡς τεθαμμένης ἐν τῷ νῦν παρόντι.. and: δοκοῦσι μέντοι μοι μάλιστα θέσθαι οἱ ἀμφὶ Ὀρφέα τοῦτο τὸ ὄνομα, ὡς δίκην διδούσης τῆς ψυχῆς ὧν δι' ἔνεκα δίδωσιν, τοῦτον δὲ περίβολον ἔχειν, ἵνα σφῶζεται, δεσμοτηρίου εἰκόνα.

²⁴ J. Piquemal, 'Sur une métaphore de Clément d'Alexandrie: les dieux, la mort, la mort des dieux', *R.Ph.F.* 88 (1963) 191 neatly puns that Aristotle has made Plato's 'grave' into a 'sarcophagus'.

background to the Aristotelian motif. He points out that Herodotus relates a story in which the inhabitants of the city of Agylla were massacred by the Etruscans in 534 BC. This had laid a curse on the region which later inhabitants, instructed by the oracle in Delphi, were able to ward off by making large sacrifices and instituting periodical games.²⁵ And Virgil, *Aeneid* VIII 478-488 mentions that this kind of Etruscan torture had been used already by order of King Mezentius, entirely in accordance with the method described by Aristotle. Brunschwig concludes that the story about the Etruscan atrocity was already associated in Antiquity with the theme of divine punishment.²⁶

However, Brunschwig also refers to the ancient tradition which connects Etruscan robbers with the god Dionysus. In this tradition Dionysus was imprisoned as a boy by Tyrrhenian pirates on one of their ships. The scoundrels, believing they held a scion of a royal family, hoped to secure a large ransom, and ignored the warnings of their helmsman. But Dionysus' bonds were magically loosened and the terrified pirates jumped overboard and were changed into dolphins.²⁷ Brunschwig goes on to connect the Etruscans as 'enemies of Dionysus' with the Titans, who, according to a different tradition, lured Dionysus away, tore him apart, and devoured him.²⁸ Though the author points out that this tradition is only reported *in extenso* by relatively late texts, he believes it is implied in a number of texts by Pindar, Plato, and Xenocrates.

Finally, as regards the origin of these texts in Augustine and Iamblichus, Brunschwig opts for a relationship with Aristotle's *Eudemus*. He thus avoids Nuyens's problem that two different psychological theories were propounded by Aristotle in one work, the *Protrepticus*.²⁹ And he can establish a link between Silenus, Dionysus' traditional companion, who figures as a prisoner of King Midas in Aristotle's dialogue *Eudemus*, and the prisoners of the Etruscan robbers.³⁰

²⁵ Herod. I 167.

²⁶ J. Brunschwig (1963) 173-175.

²⁷ Cf. *Hymn. Hom.* VII 7-8, where λησταὶ .. Τυρσηνοί are mentioned. The same activity of Dionysus as one who loosens bonds is central in Eurip. *Bacchae*, 432-447; 497; 613ff.; 643ff.

²⁸ J. Brunschwig (1963) 178-180.

²⁹ This entails a rejection of Düring's premise that Iamblichus in his *Protrepticus* quoted only Aristotle's work of the same name.

³⁰ J. Brunschwig (1963) 185.

The discussion was continued by J. Pépin³¹. He is full of praise for the work of J. Brunschwig. And he starts by underlining the pessimism which these texts express. This leads him to connect them with 'the young Aristotle who was still very much a Platonist'³². The aim of Pépin's contribution is to show that the crime of the Etruscans already formed part of the Orphic tradition³³. But Pépin also points out the interesting fact that the pirates tied together the living prisoner and the corpse 'face to face', so that the corpse forms, as it were, a mirror image of the living prisoner. Moreover, this coupling can be seen as a kind of 'copulation'³⁴. For Pépin this indicates the importance in the Greco-Roman tradition of the 'mirror motif', and an extra link with the tradition about Dionysus, whom the Titans lured by means of, among other things, a 'mirror'³⁵. Pépin also suggests that the term 'extended', which Iamblichus uses for the soul, has an intentional etymological connection with the name of Dionysus' enemies, the Titans³⁶. Finally, Pépin upholds the attribution of these texts to Aristotle's *Protrepticus*.³⁷

Yet there is still something unsatisfactory about the hypothesis that Aristotle's image of the human condition in the *Eudemos* is far more negative than Plato's conception in the *Phaedo*, which may have been written a number of decades earlier³⁸. This is all the more true if Plato's own position on the soul's relationship with the body became less negative in later years.³⁹ Some authors have therefore tried to

³¹ J. Pépin, 'La légende orphique du supplice tyrrhénien', A Cazenave; J.F. Lyotard (eds), *L'art des confins. Mélanges offerts à M. de Gandillac* (Paris 1985) 387-406.

³² J. Pépin (1985) 388: 'L'essentiel de cette conception—ce qui ne surprend pas dès lors qu'il s'agit du "jeune" Aristote, encore largement platonicien—se rencontre déjà dans les dialogues de la maturité de Platon'.

³³ J. Pépin (1985) 389.

³⁴ J. Pépin (1985) 390. For 'copulation' Iamblichus' text uses: σύζευξις. Augustine/Cicero has: 'copulatos'.

³⁵ J. Pépin (1985) 392. On this motif, cf. also J. Pépin, 'Plotin et le miroir de Dionysos (*Enn.* IV 3 [27] 12, 1-2)', *Rev. intern. de philos.* 24 (1970) 304-320.

³⁶ J. Pépin (1985) 393 on διατετασθαι with reference to Procl. *In Tim.* (ed. Diehl) 146, 14-18 and *In Crat.* 106 (ed. Pasquali) 56, 13-17. Pépin (1985) 394 also shows that Plato, with his doctrine of an immaterial soul, could say in exactly the same way that the soul extends throughout the visible body (*Tim.* 34b; 36e; cf. *Phd.* 67c).

³⁷ J. Pépin (1985) 399-400.

³⁸ C.J. de Vogel, 'The *sôma-sêma* formula: its function in Plato and Plotinus compared to Christian writers', H.J. Blumenthal; R.A. Markus (eds), *Neoplatonism and early Christian thought. Essays in honour of A.H. Armstrong* (London 1981) 79-95, p. 88 heightens the contrast by virtually denying a negative view of corporeality to Plato.

³⁹ Cf. H.J. Drossaart Lulofs, *De ogen van Lynceus* 20.

excuse Aristotle by suggesting that the *Eudemus* was written in a mood of deep pessimism brought on by the death of Aristotle's dear friend Eudemus of Cyprus, and they argue that the conception of man proposed in the *Eudemus* cannot be regarded as typical of Aristotle.⁴⁰ A.H. Chroust, who went very far in developing this train of thought, assumes too readily that Aristotle acquired a great reputation in Antiquity with a work which did not promote his own views. Such a course of events is not easily demonstrable in the history of philosophy.

However, I think that the *Eudemus* text and the related text in Iamblichus can be explained in a new way if we take our cue from a new view of Aristotle's psychology.

An oppressive bond with dead bodies

We need to ask whether the image used by Aristotle in fact offers an even more pessimistic view of earthly existence than Plato had presented. Perhaps we should surmise that Aristotle used a different image because he had developed a different conception of the soul and believed it could best be expressed by a new image. In fact, there is no solid basis for Jaeger's hypothesis of a Platonistic phase in Aristotle's philosophy. (This hypothesis was, in part, due to the erroneous traditional interpretation of *De anima* II 1 which Jaeger took for granted.) There is no reliable evidence for the claim that Aristotle ever accepted the doctrine of Ideas.⁴¹ And though the *Eudemus* talks about the soul as a kind of *eidos*, *De anima*, too, calls the soul the *eidos* of a natural body.⁴² We should also take note of Cicero's statements that Aristotle had assumed a special relationship between the soul and the fifth element.

⁴⁰ Cf. A.H. Chroust, *Aristotle. New light on his life and on some of his lost works* (London 1973), vol. 2, 43-54, esp. 53-54: 'a *consolatio mortis* is hardly the proper document for reliable inferences as to the author's true and ultimate philosophical convictions or teachings'; 70; F.L. Peccorini, 'Divinity and immortality in Aristotle: a de-mythologized myth?', *The Thomist* 43 (1979) 225. I. Düring, *Aristoteles* (Heidelberg 1966) 554-556 sharply attacks the persistent '*fables convenues*' which have come to surround the *Eudemus*. He believes the work's aim was not to advance a distinct view of its own but rather to give a broad orientation on the main positions. An entirely distinct Aristotelian position in the *Eudemus* is argued by H.J. Drossaart Lulofs (1967) 15-18.

⁴¹ Cf. J.M. Rist, *The mind of Aristotle* 9; 14.

⁴² Arist., *Anim.* II 1, 412a20; 2, 414a13-19. Cf. J.M. Rist (1987) 46-47.

Augustine describes the torment which the Etruscan pirates inflicted on their victims as follows: 'their bodies, the living with the dead, were bound as exactly as possible one against another'.⁴³ Augustine connects this with the situation of the soul in relation to the body: 'our souls, bound together with our bodies, are like the living joined with the dead'.⁴⁴

Two things are remarkable here. The soul is compared with a composite, namely with a 'body which possesses life', in contrast to something simple, a body which does not possess life. Second, it is suggested that the soul has a certain dimensionality and is wholly congruous with the content of the visible, earthly body.

This cannot be properly connected with any of the traditional interpretations of Aristotle's theory of the soul.

(a) Not with the view of the *Eudemus* in Jaeger's interpretation, where the soul is a kind of *eidos* in the sense of 'an Idea or something of the nature of an Idea'.

(b) Not with the traditional view of *De anima*, in which the soul is seen as the incorporeal form of a visible natural body equipped with organs.

We can, however, argue that this view would be remarkably in keeping with the psychology of the *Eudemus* and of *De anima* in the alternative view developed above. In that case Aristotle chose this image precisely in order to indicate that the soul should be interpreted as the compound substance of the (incorporeal) entelechy principle and its 'natural instrumental (soul-)body', a complex which relates to the visible body *as a living body to a corpse*! For it is most unlikely that Aristotle interpreted the bond of the celestial beings with their astral bodies as negatively as that of mortals with their perishable bodies.

The dimensional aspect of the soul could then be easily explained by means of Aristotle's theory of *pneuma*, which is present throughout the visible body as a mediating entity between the soul-principle and the visible body. Because *pneuma* is present throughout the entire living creature, Aristotle can say in *De generatione animalium* that it is impossible 'that a face or a hand or flesh or another part is what it is

⁴³ In Latin: 'corpora viva cum mortuis, adversa adversis accommodata quam aptissime colligabantur'.

⁴⁴ In Latin: 'sic nostros animos cum corporibus copulatos ut vivos cum mortuis esse coniunctos'. Düring reads 'cumulatos' instead of 'copulatos'.

if the sensitive soul is not actually or potentially present in it, in a relative or in an absolute sense. For (if this is not the case) then it is a corpse or part of a corpse'.⁴⁵ We should bear in mind here that Aristotle located the soul-principle itself in the heart⁴⁶.

The same idea of living people bound to corpses (*nekroi*) is expressed in Iamblichus' parallel text⁴⁷. We could interpret this, too, as an indication that Aristotle regards *pneuma* as 'ensouled' in a primary sense, while the visible body, which remains as a corpse when the soul-complex withdraws from it, is 'ensouled' only in a secondary, derivative sense. But an extra element in Iamblichus' text is his statement that 'the soul seems to be extended throughout and affixed to all the sensitive members of the body'.⁴⁸ Iamblichus does not talk about sensible but about sensitive members of the body.⁴⁹ If we recall that, for Aristotle, the soul as *entelechy* is seated in the heart as its command centre, Iamblichus must again be referring to (psychically characterized) *pneuma*, which passes on all sensations from the senses to the centre of consciousness in the heart and conveys all the emotional reactions back to the parts of the body⁵⁰.

A comparison with Corpus Hermeticum X

Can we imagine the procedure which Aristotle used to explain why 'being born' has such a negative effect? Perhaps we might use a text which offers an explication that comes very close to what Aristotle could have meant. The name of Aristotle is not mentioned in this text, but it does evoke an Aristotelian atmosphere in all kinds of ways. I am referring to treatise X of the Hermetic Corpus, entitled 'The

⁴⁵ *Gener. anim.* II 5, 741a10-13: ἀδύνατον δὲ πρόσωπον ἢ χεῖρα ἢ σάρκα εἶναι ἢ ἄλλο τι μόνιον μὴ ἐνούσης αἰσθητικῆς ψυχῆς ἢ ἐνεργείᾳ ἢ δυνάμει καὶ ἢ πῃ ἢ ἀπλῶς· ἔσται γὰρ οἷον νεκρὸς ἢ νεκροῦ μόνιον.

⁴⁶ Cf. *Gener. anim.* II 5, 741b15ff; *Iuv.* 4, 469b3-8.

⁴⁷ Cf. Boethius of Sidon in Eus. *P.E.* XI 28, 12: εἰ γὰρ καίπερ ἐν τῷ θνητῷ καὶ λυτῷ καὶ ἀνοήτῳ καὶ καθ' ἑαυτὸ νεκρῷ .. κατορωρυγμένη αὐτὸ τε ποιεῖ καὶ συνέχει.

⁴⁸ Iambl. *Protr.* 48, 7-9: οὕτως ἔοικεν ἡ ψυχὴ διατετάσθαι καὶ προσκεκολληθῆσαι πᾶσι τοῖς αἰσθητικοῖς τοῦ σώματος μέλεσιν. Cf. C. Santaniello, 'Traces of the lost Aristotle in Plutarch', A. Pérez Jiménez *et al.* (eds) *Plutarco, Platón y Aristóteles* (Madrid 1999) 629-641, pp. 636f.

⁴⁹ This is pointed out by J. Brunschwig (1963) 182 n. 4. I. Düring had translated: 'all the sensitive members of the body'.

⁵⁰ J. Pépin (1985) 394-395 points out that the Stoics later used the same terminology (ἀντιπαρκετεῖν and ἀντιπαρήκειν) to explain that the fine-material body is present throughout the visible, coarse-material body.

key'⁵¹. This treatise talks about *gnôsis* as the key to perfect happiness for the soul, but also about 'ignorance' as the greatest catastrophe to befall the soul.⁵²

'A soul which has not achieved *gnôsis* of the things that are and their essence and of the Good is blind, and is shaken by the passions resulting from its bond with the body and, being unhappy through lack of self-knowledge, is subject to bodies which are alien to its essence and pernicious. It drags the body along as a burden, not ruling it but being ruled. This is the vice of soul.'⁵³

The soul's 'blindness' is reminiscent of the text in which Aristotle compares the human condition with that of bats, which cannot see in daylight.⁵⁴ The soul's 'subjection' is discussed by Aristotle in a passage which states that human nature is 'unfree' in many respects.⁵⁵ The shaking of the soul by alien bodies suggests the image of a ship in a flying storm. These 'bodies' must be the four sublunary elements, which together form the visible body. The soul has nothing 'in common' (*koinônia*) with them⁵⁶.

For the 'covering' of the soul is a complex matter, as the following passage shows: 'The intellect is in the reason; the reason is in the soul; the soul in the *pneuma*. *Pneuma* pervades the veins and the arteries and the blood and in this way sets the living creature in motion and drags it along, as it were.'⁵⁷

⁵¹ Cf. *Corpus Hermeticum*, tome I (Traité I-XII) texte établi par A.D. Nock; trad. par A.J. Festugière (Paris 1946; repr. 1972); *Corpus Hermeticum*, ingel., vertaald en toegelicht door R. van den Broek en G. Quispel (Amsterdam 1990); *The Greek Corpus Hermeticum and the Latin Asclepius* in a new English transl. with notes and introd. by B.P. Copenhaver (Cambridge 1992); W.S. Grese, *Corpus Hermeticum XIII and early christian literature* (Leiden 1979) 34-47.

⁵² C.H. X 8: κακία δὲ ψυχῆς ἀγνώστια.

⁵³ C.H. X 8: ψυχὴ γὰρ, μὴδὲν ἐπιγινούσα τῶν ὄντων μὴδὲ τὴν τούτων φύσιν, μὴδὲ τὸ ἀγαθόν, τυφλώττουσα δέ, ἐντινάσσει τοῖς πάθεσι τοῖς σωματικοῖς, καὶ ἡ κακοδαίμων, ἀγνοήσασα ἑαυτήν, δουλεύει σώμασιν ἀλλοκότοις καὶ μοχθηροῖς ὥσπερ φορτίον βαστάζουσα τὸ σῶμα, καὶ οὐκ ἄρχουσα ἀλλ' ἀρχομένη. αὕτη κακία ψυχῆς. I have made use of the translation by B.P. Copenhaver.

⁵⁴ Arist. *Metaph.* α 1, 993b9-11.

⁵⁵ Arist. *Metaph.* A 2, 982b29: πολλαχῇ γὰρ ἡ φύσις δούλη τῶν ἀνθρώπων ἐστίν.

⁵⁶ A.J. Festugière (1946) 127 n. 36 associates the words 'bodies which are alien to its essence' with transmigration of the soul into animal bodies. Likewise R. van den Broek and G. Quispel. But the contrast here, given what is said further on, is that between a 'fiery body' of the soul and its opposite, of which the visible human body consists, which is a heavy burden for the soul. In the Hermetic Corpus, too, the soul has an 'affinity' (*koinônia* – cf. Arist. *Anim.* I 3, 407b18) with its instrumental body. But not with the coarse-material components of the visible body.

⁵⁷ C.H. X 13: ψυχὴ δὲ ἀνθρώπου ὀχεῖται τὸν τρόπον τοῦτον· ὁ νοῦς ἐν τῷ λόγῳ, ὁ λόγος ἐν τῇ ψυχῇ, ἡ ψυχὴ ἐν τῷ πνεύματι· τὸ πνεῦμα διήκον διὰ φλεβῶν καὶ ἀρτηρίων

Pneuma pervades the body via the blood, and therefore some people have identified blood with the soul, says the author. But this is a mistake. For the death of a body does not occur owing to a change in the blood, but because blood loses its fluidity when the *pneuma* has withdrawn to the soul.⁵⁸

It is remarkable that the author talks about 'the death of the body' here. He thus concurs with Plutarch, who in the final myth of *De facie in orbe lunae* distinguished between the 'first death' and the 'second death', in which the soul-body is abandoned by the intellect.⁵⁹ This distinction is a logical consequence of Aristotle's fundamental separation of theoretical intellect and productive soul.⁶⁰

Some modern scholars believe that the identification of blood with the soul which the author attributes to some philosophers was influenced by the Jewish conception and the Septuagint.⁶¹ However, because *pneuma* is not interpreted immaterially, as Philo of Alexandria does, but as the fine-corporeal carrier of the soul, we should rather assume that the Hermetic author was familiar with Aristotle's criticism of those who identified the soul with blood.⁶²

Next, this cosmology and anthropology is put in a strictly monarchianist framework. 'All things depend on one principle, and this principle (depends) from the One which is alone. And the principle is set in motion so that it becomes the principle (of motion of all other things). But the One which is alone stands still and is not in motion itself'.⁶³ The One which is alone is clearly the transcendent Unmoved Mover in Aristotle's theology. The principle that is set in motion is the external celestial sphere of the fixed stars, which is the first mover that is set in motion. The term which is used here for the

καὶ αἵματος κινεῖ τὸ ζῶον καὶ ὥσπερ τρόπον τινὰ βαστάζει. A.J. Festugière translates here splendidly: "L'âme de l'homme est véhiculée en la façon que voici", but he wrongly describes the series '*pneuma*, soul, *logos*, intellect' as Stoic (129 n. 47). The translation 'the astral body' by R. van den Broek and G. Quispel is too modern.

⁵⁸ C.H. X 13: διὸ καὶ τινες τὴν ψυχὴν αἷμα νομίζουσιν εἶναι, σφαλλόμενοι τὴν φύσιν, οὐκ εἰδότες ὅτι πρῶτον δεῖ τὸ πνεῦμα ἀναχωρῆσαι εἰς τὴν ψυχὴν καὶ τὸ αἷμα παγῆναι καὶ τὰς φλέβας καὶ τὰς ἀρτηρίας κενωθῆναι καὶ τότε τὸ ζῶον καθελεῖν· καὶ τοῦτο ἐστὶν ὁ θάνατος τοῦ σώματος.

⁵⁹ Cf. Plut. *Facie* 942F ff.

⁶⁰ Cf. Hipp. *Haer.* I 20, 4 and 6; and chapter 14 above.

⁶¹ R. van den Broek; G. Quispel (1990) 126 n. 16.

⁶² Cf. Arist. *Anim.* I, 2, 405b2-8, where Critias is mentioned as a supporter of this naive view.

⁶³ C.H. X 14: ἐκ μιᾶς δὲ ἀρχῆς τὰ πάντα ἡρτηται, ἡ δὲ ἀρχὴ ἐκ τοῦ ἐνὸς καὶ μόνου, καὶ ἡ μὲν ἀρχὴ κινεῖται, ἵνα πάντα ἀρχὴ γένηται, τὸ δὲ ἐν μόνον ἔστηκεν, οὐ κινεῖται.

dependence of all things is typically Aristotelian too.⁶⁴ It recalls the image of the magnet with its pull.⁶⁵ Hence the author can say: 'God holds fast the cosmos; the cosmos holds fast man. And the cosmos is the son of God; man (is the son) of the cosmos and thus, as it were, the grandson of God'.⁶⁶

Man's relationship to God is then elaborated in a typically Hermetic way: 'God is not unknowing with regard to man, but knows him well and wants to be known by him. And this alone is for man the means of salvation, the Knowledge of God. This is the ascent to Olympus.'⁶⁷ The theme of ascent as the way which the soul goes when it acquires *gnôsis* is opposite to the way of man's *genesis*. For *genesis* is the process in which the soul undergoes a '*dialysis*' and suffers a loss of concentration.⁶⁸ Only when it possesses *gnôsis* of God can the soul be characterized as good.⁶⁹ When it has undergone 'dialysis of itself', it brings about oblivion in itself and no longer shares in the beautiful and the good.⁷⁰ A.J. Festugière translates dialysis and 'to be dialysed' as 'to be separated from its real self'. But this is to run the risk of introducing a Neoplatonist view into a different kind of argumentation. And one can also think here of a process of 'dilution', 'solution'⁷¹ that is due to the development of the visible body which is produced and ruled by the soul.

⁶⁴ C.H. X 14: ἤρτηται. Cf. *Metaph.* A 7, 1072b14; *Cael.* I 9, 279a28-30; *Motu anim.* 4, 700a5 (where the term functions in an allegorical explanation of Homer's passage on the 'golden chain'). Cf. A.J. Festugière (1946) 129-130 n. 51. Earlier this author noted: 'cette notion d'un Dieu-Bien n'agissant que par son vouloir, c'est-à-dire sa pensée, paraît bien dériver assez directement d'Aristote, *Méta.* A 6-7' (*ibid.* 118-119 n. 10).

⁶⁵ Cf. Pl. *Ion* 533d ff.; 536a.

⁶⁶ C.H. X 14.

⁶⁷ C.H. X 15: τοῦτο μόνον σωτήριον ἀνθρώπῳ ἐστίν, ἡ γνῶσις τοῦ θεοῦ. αὕτη εἰς τὸν Ὀλυμπον ἀνάβασις.

⁶⁸ C.H. X 15: Ψυχὴν παιδὸς θεάσασαι, ὃ τέκνον, αὐτὴν διάλυσιν αὐτῆς μηδέπω ἐπιδεχομένην.

⁶⁹ C.H. X 15: οὕτω μόνως ἀγαθὴ ψυχὴ, A.D. Nock. (But the reading of this passage and what follows it is uncertain.) It is relevant to note that the term 'good' places the soul on the level of the divine Origin. C.H. X 12 said that the cosmos is 'not good' because it is in motion, but 'not bad' because it is imperishable. By contrast, man was characterized as 'bad' because he is changeable and mortal.

⁷⁰ C.H. X 15: διαλύσασα δὲ ἑαυτὴν ἐγγενῶς λήθην, καὶ τοῦ καλοῦ καὶ ἀγαθοῦ οὐ μεταλαμβάνει.

⁷¹ For Aristotle's use of the term διάλυσις see *Cael.* III 7, 306a1 where he talks about τῇ τῶν ἐπιτέδων διάλυσει, by which he means the breaking up of concrete bodies into a multitude of triangles (in Plato's *Timaeus*). *Somn.* 1, 454b8 mentions διάλυσις of the soul. *Gener. anim.* II 3, 737a11 speaks of 'dialysis' ('solution') of sperm fluid.

The author illustrates this process of 'soul-dilution' by comparing it to the development of a child. The beauty of the soul in a newly born child is still recognizable.⁷² But as the child grows, his soul is, as it were, 'dragged downwards' and stretched through all parts of the visible body.⁷³ We might suspect that the author here imagines birth, i.e. the entrance into a coarse-material body, as a process in which the soul is tied more and more tightly to the coarse-material body, like the prisoners of the Etruscan pirates in the description of Aristotle's *Eudemus*, and as being dragged down from the astral sphere.

Chapter 16 explains how the death of mortal man is like a return to the condition of the perfectly happy soul of a newborn child. The soul of the individual can then restore its relationship with the World Soul.⁷⁴ The following stages are distinguished in this process: 'the soul ascends and withdraws into itself; the *pneuma* withdraws into the blood; the soul contracts into the *pneuma*. The intellect is thus freed of its garments (*endymata*), for its nature is divine, and receives a fiery body, with which it roams through all space, and it leaves the soul behind to be judged and receive just punishment.'⁷⁵

We thus find here the doctrine of the separation of intellect and soul (-body), recognized as Aristotelian by Hippolytus⁷⁶ and also described in Plutarch, *De facie in orbe lunae*. The soul with its *pneuma* can apparently be called a 'garment' of the intellect. The source of this doctrine must be the Aristotelian theory that the soul (as distinct from theoretical intellectuality) cannot carry out its specific activities 'without body'.⁷⁷

These doctrines are unknown to the novice and he asks for a further explanation: 'What do you mean, my Father? Is the intellect

⁷² At this stage the individual soul's unity with the World Soul still exists too: ἔτι σχεδὸν ἡρτημένην τῆς τοῦ κόσμου ψυχῆς.

⁷³ Here, too, the text is clearly defective. A significant passage reads: ὅταν δὲ ὀγκωθῇ τὸ σῶμα καὶ κατασπάσῃ αὐτὴν εἰς τοὺς τοῦ σώματος ὄγκους, διαλύσασα δὲ ἑαυτὴν ἐγγενῶς λήθην... B.P. Copenhaver reads here: 'when the body gets its bulk and drags the soul down to the body's grossness'. Cf. Aristid. Quint. *Mus.* II 2, p. 53, 19 (R.P. Winnington Ingram): κατασπᾶ τε αὐτὴν καὶ ἀποφοιτᾶν κωλύει.

⁷⁴ *C.H.* X 16: τὸ δὲ αὐτὸ συμβαίνει καὶ τοῖς τοῦ σώματος ἐξιοῦσιν.

⁷⁵ *C.H.* X 16: ἀναδραμοῦσα γὰρ ἡ ψυχὴ εἰς ἑαυτήν, συστέλλεται τὸ πνεῦμα εἰς τὸ αἷμα, ἡ δὲ ψυχὴ εἰς τὸ πνεῦμα, ὁ δὲ νοῦς καθαρὸς γεγόμενος τῶν ἐνδυμάτων, θεῖος ὧν φύσει, σώματος πυρίνου λαβόμενος περιπολεῖ πάντα τόπον, καταλιπὼν τὴν ψυχὴν κρίσει καὶ τῇ κατ' ἀξίαν δίκῃ. Arist. *Motu anim.* 10, 703a21 had already noted that *pneuma* can 'contract'. On συστολή as contraction of the soul, cf. J. Pépin (1985) 396-397.

⁷⁶ Hipp. *Haer.* I, 20, 4; 6.

⁷⁷ Arist. *Anim.* I 1, 403a5-8; a16-18.

separated from the soul and the soul from the *pneuma*, when you say that the soul is the "garment" (*endyma*) of the intellect and the *pneuma* of the soul?'⁷⁸ This gives Hermes Trismegistus the opportunity to go into more detail: 'The combining of these garments occurs in an earthly body. For the intellect cannot seat itself alone and naked in an earthly body.'⁷⁹ The quality of the intellect does not admit of physical contact with an earthly body.⁸⁰

Again the background here is formed by Aristotle's anthropology, with its sharp distinction between the immaterial intellect and the soul, which cannot operate without a body. This view cannot possibly be regarded as Stoic in origin, first of all because of the fundamental rejection of Stoic materialism by all Gnostic conceptions. The solution to the problem is: 'the intellect has adopted the soul as a shroud, and the soul, which is itself something divine, uses the *pneuma* as its servant. And the *pneuma* governs the living creature.'⁸¹

Two remarks can be made here. The soul's relationship with *pneuma* is that of a user and an instrument. This is in line with what Aristotle says in *De anima* I 3: '*technè* must use its instruments, and the soul its body'.⁸²

Pneuma is called the 'servant' of the soul. In comparable fashion Aristotle called vital heat 'most serviceable' to the productive activity of the soul.⁸³

'When the intellect has got free from the earthly body, it clothes itself in its own mantle (*chiton*), the fiery one, which it could not keep on when taking up residence in the earthly body. ... But the body that goes with the intellect is fire. Because the intellect is the demiurge of all things, it uses fire as its instrument (*organon*) for this production.'⁸⁴

⁷⁸ C.H. X 16: Πῶς τοῦτο λέγεις, ὦ πάτερ; ὁ νοῦς τῆς ψυχῆς χωρίζεται καὶ ἡ ψυχὴ τοῦ πνεύματος, σοὺ εἰπόντος ἔνδυμα εἶναι τοῦ μὲν νοῦ τὴν ψυχὴν, τῆς δὲ ψυχῆς τὸ πνεῦμα;

⁷⁹ C.H. X 17: ἡ σύνθεσις τῶν ἐνδυμάτων τούτων, ὦ τέκνον, ἐν σώματι γίνωται· ἀδύνατον γὰρ τὸν νοῦν ἐν γήινῳ σώματι γυμνὸν αὐτὸν καθ' ἑαυτὸν ἐδράσαι. Plato had said that *nous* cannot be connected with a body unless by mediation of a soul, *Tim.* 30b; *Philb.* 30c. Aristotle had specified this by saying that the soul itself is always connected with an instrumental body.

⁸⁰ C.H. X 17: οὕτε τὴν τοσαύτην ἀρετὴν ἀνασχέσθαι συγχρωτιζόμενον αὐτῇ παθητὸν (δυνατόν ἐστι).

⁸¹ C.H. X 17: ἔλαβεν οὖν ὥσπερ περιβόλαιον τὴν ψυχὴν, ἡ δὲ ψυχὴ καὶ αὐτὴ θεία τις οὕσα καθάπερ ὑπηρέτῃ τῷ πνεύματι χρῆται· τὸ δὲ πνεῦμα τὸ ζῶον διοικεῖ.

⁸² Arist. *Anim.* I 3, 407b25-26. See chapter 4 above.

⁸³ *Part. anim.* II 7, 652b10: τοῖς τῆς ψυχῆς ἔργοις ὑπηρετικώτατον τῶν σωμάτων τὸ θερμόν ἐστιν. *Gener. anim.* V 8, 789b10-12.

⁸⁴ C.H. X 18: ὅταν οὖν ὁ νοῦς ἀπαλλαγῇ τοῦ γήινου σώματος, τὸν ἴδιον εὐθύς ἐνεδύσαστο χιτῶνα, τὸν πύρινον, ὃν οὐκ ἐδύνατο ἔχων εἰς τὸ γήινον σῶμα κατοικῆσαι.

The author is talking here about the human intellect and the intellect of the World Soul. The Platonic notion of the divine Demiurge has been corrected in accordance with Aristotle's criticism of Plato's *Timaeus*: the production of material things is impossible 'without corporeality'. Hence the intellect of the World Soul needs a 'natural body' as its 'instrument' (*organon*).

This is underscored by the statement: 'Without being clothed in fire the human intellect cannot create divine products, since it has a human condition as a result of its dwelling-place.'⁸⁵

To sum up, we can see that this text in the Hermetic Corpus presents a number of remarkable doctrines which are clearly connected:

(a) The fundamental system is not a two-way division of man but a trichotomy of visible body, soul, and intellect. The intellect is not a function of the soul but differs essentially from the soul in its ability to achieve knowledge of the transcendent and to become separated from all corporeality.

(b) The soul survives after death and so is relatively independent. But the soul, in turn, is shed and abandoned by the intellect, which casts off all materiality.

(c) The doctrine of soul is connected with the doctrine of *pneuma* as the 'instrumental body' of the soul. That is to say, the *pneuma* doctrine is that of Aristotle and not that of the Jewish tradition starting with Philo of Alexandria.

(d) The soul-body is presented as the vehicle (*ochêma*) of the soul, but also as its 'garment' or 'mantle' (*endyma*; *chiton*) and 'shroud' (*peribolaion*).

These doctrinal details make for a striking relationship with the anthropology in the final myth of Plutarch's *De facie in orbe lunae*. The most plausible theory for the source of this anthropology is that it embroiders on Aristotle's lost writings such as the *Eudemus* and *De philosophia*.

(Cf. Plot. *Enn.* IV 3 [27] 9, 3, where the soul's fire-body and air-body is also distinguished from the gross-material earthly body.) νοῦς δὲ ὀξύτατος ὢν πάντων τῶν θείων νοημάτων καὶ τὸ ὀξύτατον τῶν στοιχείων ἔχει σῶμα, τὸ πῦρ· δημιουργὸς γὰρ ὢν ὁ νοῦς τῶν πάντων, ὀργάνῳ τῷ πυρὶ πρὸς τὴν δημιουργίαν χρῆται. (Cf. Ps.-Arist. *Spir.* 9, 485a28-b3). So the author draws a clear distinction between the cosmic Intellect and God, who is called Father and the Good in X 1-3.

⁸⁵ C.H. X 18: γυμνὸς γὰρ ὢν τοῦ πυρὸς ὁ ἐν ἀνθρώποις νοῦς ἀδυνατεῖ τὰ θεῖα δημιουργεῖν, ἀνθρωπίνος ὢν τῇ οἰκῇσει.

There is one more interesting point. The earlier part of 'The key' mentions the god Kronos, of whom it is said that, when he shares in the perfect contemplation, he 'moves out of his body'.⁸⁶ Plutarch's *De facie* also talks about the god Kronos, who, bound in the shackles of sleep, is only occasionally allowed to share in Zeus' counsel.⁸⁷ We know from Tertullian that this theme played a role in one of Aristotle's lost works.⁸⁸ It appears to be evident that Aristotle through that mythical story about the dreaming Kronos hinted at the metaphor of sleeping and waking that he used to indicate the condition of the soul as first entelechy over against the condition of the actualised entelechy.⁸⁹

Thus the text of treatise X in the Hermetic Corpus gives us valuable extra information about the way in which the doctrine of a soul-body can have its place within a non-materialistic and non-Platonic dualistic anthropology, and can be combined with the notion of the soul surviving the death of the individual.

Of course the reading of a text in the Hermetic Corpus always raises the question from which source the conception used there is drawn. Modern exegetes often see themselves forced, for want of alternatives, to ascribe a large degree of originality to the Hermetic authors. But the connection of a doctrine of *pneuma* with a doctrine of the soul's ascent cannot be classified as an invention by an anonymous Hermetic author. This doctrine must have an Aristotelian origin, as can be clearly inferred from the work *De mundo*.⁹⁰

After this lengthy digression on the anthropology of the Hermetic Corpus, I conclude that the Hermetic text offers solid grounds for

⁸⁶ C.H. X 5: κατακοιμίζονται πολλάκις [δὲ] ἀπὸ τοῦ σώματος εἰς τὴν καλλίστην ὥσιν. Cf. Plot. *Enn.* IV 8 [6] 1,1: πολλάκις ἐγειρόμενος εἰς ἑμαυτὸν ἐκ τοῦ σώματος καὶ γινόμενος τῶν μὲν ἄλλων ἔξω, ἑμαυτοῦ δὲ εἴσω

⁸⁷ Plu. *Facie* 941A-942B.

⁸⁸ Cf. Tert. *Anim.* 46. 10. See J.H. Waszink, 'Traces of Aristotle's lost dialogues in Tertullian', *Vigil. Christ.* 1 (1947) 137-149; id., 'The dreaming Kronos in the *Corpus Hermeticum*', *Mélanges H. Grégoire* (Brussels 1950) = *AIPhO* 10 (1950) 639-651 and A.P. Bos, *Cosmic and meta-cosmic theology* 16-20; 'The distinction between "Platonic" and "Aristotelian" dualism, illustrated from Plutarch's myth in *De facie in orbe lunae*', A. Pérez Jiménez (ed.), *Estudios sobre Plutarco* (Madrid-Málaga 2001) 57-70 and C. Santaniello, 'Traces of the lost Aristotle in Plutarch', A. Pérez Jiménez *et al.* (eds), *Plutarco, Platón y Aristóteles* (Madrid 1999) 629-641.

⁸⁹ Arist. *Anim.* II 1, 412a25-26.

⁹⁰ *Mu.* 1 and 4, 394b9-12. See chap. 10 above.

interpreting the texts about the Etruscan robbers not as Platonistic but as typically Aristotelian. Next, this interpretation, if valid, lends credence to the view that the two texts should not be traced back to Aristotle's *Protrepticus*, if in fact this was a separate work, but to Aristotle's dialogue *On the soul*, *Eudemus*. Only a work that explicitly took the soul as its theme can be the origin of a discussion on the soul's entrance (*katabasis* or *kathodos*) into the sphere of the coarse-material sublunary elements and on its return (*anabasis* or *anhodos*) to its heavenly place of origin and its Source. It becomes even clearer, too, that the *Eudemus* was not just a consolatory work or an occasional text but a serious contribution to the ongoing philosophical debate.⁹¹

We can add a text which also seems to underline the insignificance and wretchedness of the visible body.

Iamblichus, *Protrepticus* 8 (47, 5-21 ed. Pistelli)

(= Aristotle, *Protrepticus* fr. 10a Ross; B. 104-105 Düring; 73 Gigon)

One may observe the same if one views human life in a clear light. For one will find that what seems impressive to people is merely a façade. It is therefore rightly said that man is nothing, and that nothing in human life is stable. For strength and greatness and beauty are laughable and inconsequential; and beauty appears to us only because we see nothing accurately. For if one could see as clearly as they say Lynceus⁹² did, who could see through walls and trees, could one endure to look at a man if one truly saw of what poor materials he is composed? And honour and reputation, which men so desire, are just so much folly. For to him who has caught just a glimpse of eternal things, there is no point in being concerned about these things. For what is long-lived or lasting in human life? Only because of our weakness and the shortness of our life, does this sometimes seem considerable.

⁹¹ Cf. J.M. Rist, *The mind of Aristotle* 166. *Contra* K. Gaiser (1985) 473, who thinks it unlikely 'dass Aristoteles in dem literarischen Werk einen genuin philosophischen Beitrag zur Frage der Unsterblichkeit der Seele leisten wollte'.

⁹² Cf. H.J. Drossaart Lulofs, *De ogen van Lynceus* (Leiden 1967). This author also calls the passage in question a symptom of 'a pessimistic deflation of existence on earth' (7), but in a marvellous analysis of the clever composition of the *Eudemus* he shows that it is not just the product of turbulent emotion, but forms a contrast with a 'one-sided spiritualism' (18-19).

Aristotle and Orphism

It seems clear that in the *Eudemus* Aristotle followed the line of the Orphic poets and of Plato's *Phaedo*, which links up with the Orphic tradition. W. Jaeger drew attention to this important fact when he rediscovered the significance of Aristotle's lost works. My study aims to build on this insight by showing that the connection with Plato and Orphism was not just a whim on Aristotle's part which disappeared as he grew older, but that this fundamental belief held firm till the end of Aristotle's scientific career. Here it is worth mentioning the curious report of Favorinus, passed on by Diogenes Laertius, that Aristotle, when Plato gave a public presentation of the *Phaedo*, was the only one who sat out the lecture, while all others left the meeting.⁹³ Rightly J.H. Waszink argued the view: 'Just like his master Plato, Aristotle took for the composition of a *mythos* several elements from the *theologia* of the Orphics upon which he conferred a new sense'.⁹⁴ But, as in the case of Plato's references to the ancient traditions, it is difficult to determine how much ancient tradition Aristotle adopts and how much mythical narrative he himself adds.

W.K.C. Guthrie's position on Aristotle's rejection of Orphism

J.H. Waszink's view went against that of W.K.C. Guthrie, the author of a much-read study on Orphism⁹⁵. At the end of his book he stated: 'Orphic speculation had two sides, a cosmological and a psychological, an account of the world and one of the nature of the human soul. Aristotle was in profound disagreement with both.'⁹⁶ For the psychology Guthrie bases himself on Aristotle's criticism in *De anima* I 3, 407b13-16 of the Platonists and Pythagoreans, a passage which he reads as a rejection of any kind of dualism because he explains the psychology of Aristotle's *De anima* in the traditional sense. In chapters

⁹³ D.L. III 37. Cf. A. Swift Riginos, *Platonica. The anecdotes concerning the life and writings of Plato* (Leiden 1976) 180. This curious piece of information is the starting-point of T. Ebert's recent book *Sokrates als Pythagoreer und die Anamnesis in Platons Phaidon* (Stuttgart 1994) 3f.

⁹⁴ J.H. Waszink, 'Traces of Aristotle's lost works in Tertullian', *Vigil. Christ.* 1 (1947) 149.

⁹⁵ W.K.C. Guthrie, *Orpheus and Greek religion. A study of the Orphic movement* (Cambridge 1935; 21952; repr. 1993).

⁹⁶ W.K.C. Guthrie (1935) 244.

4 and 5 above I tried to show that Aristotle's relation to Plato's *Phaedo* and the Orphic-Pythagorean tradition was quite different from what Guthrie supposes.

As for the cosmogony, Guthrie points out that Aristotle sharply criticizes the Orphic idea that an undifferentiated, unformed principle like the Night (*Nyx*) could explain the entire cosmic order.⁹⁷ Again, however, the fact that Aristotle censured certain aspects of the ancient theologies does not mean that he saw no way of linking up with them on various points. Anyone who reads Plato's lambasting of the extortionate practises of Orphic evangelists⁹⁸ will find it hard to accept that Plato in the *Phaedo* and in his seventh *Letter* concurs so fundamentally with the ideas of their circle⁹⁹. But both Plato and Aristotle never simply appropriate these ideas; they *transform* them in a philosophical sense.

Where W.K.C. Guthrie failed, P. Boyancé recognized that Aristotle, while criticizing certain parts of Orphic theology, appreciated its ability to express a perspective of meaning which transcends and founds everyday experience. We can fully agree with his assessment: 'From Plato to his Neoplatonist commentators, there was a continuity in the use of the Orphic writings which is not to be ignored or underestimated. Stages of it are represented by Aristotle, Xenocrates, the Stoics, Plutarch, and further Philodemus, Cicero, and Philo Judaeus'.¹⁰⁰

⁹⁷ W.K.C. Guthrie (1935) 245-246 with reference to Arist. *Metaph.* N 4, 1091a30 ff.; A 10, 1075b26.

⁹⁸ Pl. *Resp.* II 363c ff. Orpheus and Musaeus are presented here as descendants of the moon goddess Selene and the Muses and as poets whose works are available in book form, 364e. Cf. P. Boyancé, *Le culte des Muses chez les philosophes grecs* (Paris 1936; repr. 1972) 7ff.

⁹⁹ Pl. *Phd.* 62b; *Epist.* VII 334e-335c. Cf. also *Leg.* III 701c, where Plato talks about τὴν λεγομένην παλαιὰν Τιτανικὴν φύσιν. G. Méautis (1955) 256 remarks on this last passage: 'Nous y avons vraiment l'essentiel de l'enseignement platonicien et l'affirmation solennelle: ma doctrine, au point de vue religieux, est basée sur l'Orphisme'. Cf. K. Gaiser, 'Die Elegie des Aristoteles an Eudemos', *Mus. Helv.* 23 (1966) 88-92.

¹⁰⁰ P. Boyancé, 'Remarques sur le salut selon l'Orphisme', *R.E.A.* 43 (1941) 166; id. 'Échos des exégèses de la mythologie grecque chez Philon', *Philon d'Alexandrie* (Paris 1967) 169-188, esp. 183-186. Cf. G. Méautis (1955) 254: 'L'Orphisme peut être comparé à un courant souterrain coulant à travers toute la civilisation grecque et affleurant chez les écrivains les plus divers'. Likewise F.L. Peccorini, *The Thomist* 43 (1979) 217-256, esp. 231.

L. Brisson's hypothesis on old and more recent Orphic doctrines

However, there is a serious problem in relation to the Orphic tradition: some parts of the information on Orphic doctrine occur only in very late sources. When texts of Plato and Aristotle talk about 'atone-ment of guilt' and 'penance' for grave crimes, scholars usually suppose that this refers to the crime of the Titans, who assaulted the young god Dionysus, lured, seized, and tore him apart, and then cooked and ate him. Zeus punished this outrageous behaviour by striking the Titans with his lightning. And man was born from the remains of the Titans. But in a recent study L. Brisson has pointed out that the story about the laceration of Dionysus and the birth of man from the remains of the lightning-struck Titans is not found in detail until Olympiodorus in the sixth century AD.¹⁰¹ In his contribution Brisson argues that Olympiodorus places his discussion of the birth of man from the remains of the Titans in an alchemistic context. For him this means that Olympiodorus cannot have represented a truly ancient Orphic tradition in the anthropogony.¹⁰² In the rest of the article he investigates which facets of the story about Dionysus are old and which are not.

Certainly ancient, according to Brisson, is the information about the murder of Dionysus, his consumption by the Titans, the lightning attack on the Titans by Zeus, and the rebirth of Dionysus. These were components of the old Orphic theogony which was already known in Plato's time.¹⁰³ But none of the old testimonies seems to have connected Dionysus' fortunes and the punishment of the Titans with the birth of the human race, which thus shared in the goodness and the divinity of Dionysus.

The theme that human beings descend from the Titans is also old. But it is not typically Orphic.¹⁰⁴ And Plutarch seems to pass on a Xenocratic tradition in which the crime of the Titans struck down by Zeus' lightning was punished by imprisonment, and that the

¹⁰¹ L. Brisson, 'Le corps "dionysiaque": l'anthropogonie décrite dans le *Commentaire sur le Phédon de Platon* (1, par. 3-6) attribué à Olympiodore est-elle orphique?', *Chercheurs de sagesse. Hommage à J. Pépin* (Paris 1992) 481-499. See also his 'Orphée et l'Orphisme à l'époque impériale. Témoignages et interprétations philosophiques, de Plutarque à Iamblique', *A.N.R.W.* II 36, 4 (Berlin 1990), 2867-2931. These articles are reprinted with various other studies in id. *Orphée et l'Orphisme dans l'Antiquité gréco-romaine* (Aldershot 1995).

¹⁰² L. Brisson (1992) 492-494.

¹⁰³ L. Brisson (1992) 494.

¹⁰⁴ L. Brisson (1992) 495.

imprisonment of man's soul in his body is comparable.¹⁰⁵ Not until the so-called Orphic *Rhapsodies*, which Brisson dates to the 1st or 2nd century AD, was the birth of the human race presented as a result of Zeus' campaign against the criminal Titans.¹⁰⁶

An important step further was taken by R. Edmonds in a recent contribution to the scholarly debate.¹⁰⁷ He believes that the myth of Dionysus Zagreus is not at all an ancient product but a modern construction in which fundamental Christian notions about 'redemption' and 'original sin' were attributed to a kind of Orphic church!¹⁰⁸

However, both L. Brisson and R. Edmonds fail to discuss the texts which form the starting-point of our inquiry in this chapter. Given the great importance of Aristotle's lost works in the Hellenistic period, this is a regrettable omission. We shall therefore have to consider the hypothesis of Brisson and Edmonds in our further discussion of the texts dealing with the Etruscan robbers. But first we should check to see what information about the Orphic tradition is unmistakably present in the Aristotelian Corpus.

Explicit references to the Orphic tradition in the Aristotelian Corpus

There are not many explicit references to Orphic writings in Aristotle's extant works.

In *De anima* I 5 Aristotle observes that many psychological theories of his predecessors are inadequate because they leave various facets of 'life' and 'possessing soul' out of account:

This also applies to the theory found in the so-called 'Orphic' poems; it is said there that the soul enters (living creatures) from the universe because they inhale it, it (the soul) being carried in by the winds. But this cannot be the case in plants nor in some living creatures, since not all of them possess a respiratory system. This has simply escaped the attention of those who hold this view.¹⁰⁹

¹⁰⁵ Plu. *Esu carn.* 996B-C. Cf. L. Brisson (1992) 495-497.

¹⁰⁶ L. Brisson (1992) 497; cf. id. (1990) 2883ff.

¹⁰⁷ R. Edmonds, 'Tearing apart the Zagreus myth: a few disparaging remarks on Orphism and original sin', *Class. Antiq.* 18 (1999) 35-73.

¹⁰⁸ The text of Augustine which formed the starting-point of this chapter introduces the Christian notion of 'original sin' in relation to the ancient tradition which he cites. But this is no reason to suppose that Augustine projects this idea back onto Cicero or Aristotle.

¹⁰⁹ *Anim.* I 5, 410b27: τοῦτο δὲ πέπονθε καὶ ὁ ἐν τοῖς Ὀρφικοῖς καλουμένοις ἔπεισι λόγος· φησὶ γὰρ τὴν ψυχὴν ἐκ τοῦ ὅλου εἰσιέναι ἀναπνεόντων, φερομένην ὑπὸ τῶν ἀνέμων, οὐχ οἷόν τε δὲ τοῖς φυτοῖς τοῦτο συμβαίνειν οὐδὲ τῶν ζώων ἐνίοις, εἴπερ μὴ

Aristotle ascribes an apparently related train of thought to 'the Pythagoreans': they attributed reality to the Void 'and declared that the void enters the world from the infinite *pneuma*, because the world also inhales, as it were, the void'.¹¹⁰

The passage in *De anima* I 5 shows that Aristotle knew texts attributed to Orpheus which dealt with the theme of 'life' as something which belongs to human beings and animals. The purely biotic 'life' of plants was left out of the picture. The 'life' of animals and human beings was probably associated with the 'breath of life' or *pneuma*, since respiration was considered closely connected with 'life' and the winds were regarded as the carrier of the vital substance. It is unlikely that these poems talked about an 'incorporeal soul'. We should therefore see this view in relation to the pre-Socratic theories of Anaximenes or Hippocratic doctrine. Aristotle's words here immediately raise the question: how can the soul be inhaled by respiration? For it is more natural to assume that the entrance of the soul instigates respiration. But we should probably take the Orphic view to express the belief that the soul enters the body when a baby draws its first breath.

Aristotle adds to his criticism by pointing out that there are various animals which do not have a system of respiration. In *De anima* he gives the example of fish.¹¹¹ He accuses the Orphic tradition of being deficient because it does not talk 'about every soul', ignoring as it does the *anima nutritiva*, and not 'about any entire soul', for in his own theory no animal or human soul can exist without the *anima nutritiva*.¹¹²

According to Philoponus, Aristotle here talked about 'so-called Orphic poems' because he held that they were not actually written by Orpheus. The views were those of Orpheus, but Onomacritus cast them into poetic form.¹¹³ Philoponus bases this on Aristotle's own books *On philosophy*. But a speaker in Cicero reports that the poet Orpheus never even existed according to Aristotle. A poem which Pythagoreans hand down as 'by Orpheus' was written by a certain Cercon.¹¹⁴

πάντα ἀναπνέουσιν· τοῦτο δὲ λέληθε τοῖς οὕτως ὑπειληφότας.

¹¹⁰ *Phys.* IV 6, 213b22-26: εἶναι δ' ἔφασαν καὶ οἱ Πυθαγόρειοι κενόν, καὶ ἐπεισέναι αὐτὸ τῷ οὐρανῷ ἐκ τοῦ ἀπείρου πνεύματος ὡς ἀναπνέοντι καὶ τὸ κενόν, ὃ διορίζει τὰς φύσεις... Cf. *Metaph.* N 3, 1091a13-18.

¹¹¹ *Anim.* II 8, 421a3-6; cf. *Resp.* 21, 480b12-20.

¹¹² Cf. *Anim.* II 2, 413a31-32.

¹¹³ Ioh. Philop. *In De an.* 186, 21-26 = Arist. *Philos.* fr. 7a Ross; 26 Gigon.

¹¹⁴ Cic. *N.D.* I 38, 107 = Arist. *Philos.* fr. 7b Ross; 27 Gigon. The Latin text has a

2. The second fragment of information about Aristotle's knowledge of the Orphic tradition is found in *De generatione animalium* II 1. Aristotle poses there the dilemma whether all parts of a new living creature are formed at the same time or in succession. Of the second possibility, which Aristotle himself supports, he gives 'the so-called Orphic poems' as an example. For, according to the view proposed there, the living creature is formed 'in the same way as the knitting of a net'.¹¹⁵ This is a remarkable piece of information, because it clearly involves an Orphic *anthropogony*, albeit one dealing with the generation of creatures on earth. We could also call it an embryology. Further details are lacking. But we should certainly bear in mind that Aristotle himself holds that the very first stage in embryogenesis is the formation of *the heart*. All the other distinct parts and organs develop only at a later stage. The fact that Aristotle mentions precisely this part of the Orphic tradition entitles us perhaps to ask whether these Orphic poems, too, proposed 'the heart' as the starting-point of anthropogenesis. For the heart played a crucial role in one other part of the Orphic tradition: *the heart of Dionysus* was saved by Zeus from the violent hands of the Titans, who mangled and ate Dionysus, after which Zeus regenerated a new Dionysus from it.

3. There is another explicit reference to the Orphic poems, but it occurs in the controversial work *De mundo*. I will discuss it for the sake of completeness. At the end of the work the author argues that the many names used for God are actually names for all the things which God brings about by his Power. God can be called 'the God of heaven' and 'the God of the earth' because he can be called the cause of everything which is enduring or accidental.

The text goes on:

It is therefore well said in the Orphic poems:
 Zeus is the first, Zeus of the flashing bolt is the last;
 Zeus is the beginning, the middle, all things sprang from Zeus,
 Zeus is the foundation of the earth and of the star-spangled heavens,
 Zeus is male, Zeus an immortal woman,

variant 'Cercops'.

¹¹⁵ *Gener. anim.* II 1, 734a16-20: ἡ γὰρ τοι ἅμα πάντα γίγνεται τὰ μόρια οἶον καρδία πνεύμων ἥπαρ ὀφθαλμός καὶ τῶν ἄλλων ἕκαστον, ἡ ἐφεξῆς ὥσπερ ἐν τοῖς καλουμένοις Ὀρφείως ἔπεσιν· ἐκεῖ γὰρ ὁμοίως φησὶ γίγνεσθαι τὸ ζῶον τῇ τοῦ δικτύου πλοκῇ. The motif of the 'fishing net' also occurs in Aristid. Quint. *Mus.* II 17, p. 87 (Winnington Ingram) in his description of the ethereal soul-body.

Zeus is the breath of all, Zeus the power of unwearying fire,
 Zeus is the source of the sea, Zeus is the sun and the moon,
 Zeus is king, Zeus of the flashing bolt is the master of all,
 for after hiding them all he brings them back to the glad light
 from his holy heart, performing impressive deeds.¹¹⁶

These lines were generally thought to be influenced by Stoic theology¹¹⁷ and therefore to indicate the pseudo-Aristotelian nature of the work *On the cosmos*. The discovery of a papyrus in Derveni (northern Greece) in 1962 changed the situation crucially, because it contained a number of these lines, plus an allegorizing commentary. The papyrus could apparently be dated to around 400 BC. It was used for the pyre of a distinguished person, but had not been entirely burnt. The deciphered text was first published by S. Kapsomenos in 1964.¹¹⁸ It showed that the papyrus contains lines 2 and 7 of the Orphic text as found in *De mundo*. In his contribution R. Merkelbach tried to provide some background to the new textual material.¹¹⁹ He believes that the Orphic text may even date back to the 6th century BC.¹²⁰ The commentary on the Orphic poem is strongly allegorizing and clearly brings to bear pre-Socratic natural philosophy.

W. Burkert has also attempted to provide clarification.¹²¹ He emphasizes that Zeus is presented in the allegorical commentary as the high and mighty one, but also as breath and air and as reason (*phronêsis*).¹²² He sees in this an affinity with Diogenes of Apollonia

¹¹⁶ *Mu.* 7, 401a27-401b7:

Διὸ καὶ ἐν τοῖς Ὀρφικοῖς οὐ κακῶς λέγεται·
 Ζεὺς πρῶτος γένητο, Ζεὺς ὕστατος ἀργικέραυνος
 Ζεὺς κεφαλὴ, Ζεὺς μέσσα, Διὸς δ' ἐκ πάντα τέτυκται·
 Ζεὺς πυθμὴν γαίης τε καὶ οὐρανοῦ ἀστερόεντος·
 Ζεὺς ἄρσην γένητο, Ζεὺς ἄμβροτος ἔπλετο νύμφη·
 Ζεὺς πνοὴ πάντων, Ζεὺς ἀκαμάτου πυρὸς ὁρμή·
 Ζεὺς πόντου ρίζα, Ζεὺς ἥλιος ἡδὲ σελήνη·
 Ζεὺς βασιλεὺς, Ζεὺς ἀρχὸς ἀπάντων ἀργικέραυνος
 πάντας γὰρ κρύψας αὐθις φάος ἐς πολυγηθὲς
 ἐκ καθαρῆς κραδίης ἀνενέγκατο, μέρμερα ῥέζων.

¹¹⁷ Cf. R. Harder, *Philologus* 85 (1935) 243ff.

¹¹⁸ S. Kapsomenos, *Deltion Archaiologikon* (Athens) 19 (1964) 17-25 (written in Modern Greek).

¹¹⁹ R. Merkelbach, 'Der Orphische Papyrus von Derveni', *Z. f. Papyrologie und Epigraphik* 1 (1967) 21-32.

¹²⁰ R. Merkelbach (1967) 21.

¹²¹ W. Burkert, 'Orpheus und die Vorsokratiker. Bemerkungen zum Derveni-Papyrus und zur pythagoreischen Zahlenlehre', *Antike und Abendland* 14 (1968) 93-114. See also P. Boyancé, 'Remarques sur le Papyrus de Derveni', *R.E.G.* 87 (1974) 91-110.

¹²² W. Burkert (1968) 97.

and Anaxagoras of Clazomenae.¹²³ And he stresses that there is no trace of Platonic and Aristotelian influence in the Derveni commentary.¹²⁴ Burkert also points up well how the poetic language of Orpheus, who links up with ordinary human speech in his theogonic myth, is violently transformed into an allegorizing exegesis.¹²⁵

1982 saw a non-authorized publication of 21 columns of the text of the Derveni papyrus.¹²⁶ In 1997 a new translation of all the available material was presented by A. Laks and G.W. Most.¹²⁷

The context of these verses in *De mundo* 7 raises various questions. Suffice it to say here that the verses state (a) that Zeus is male and female;¹²⁸ (b) that the breath of life of all living creatures (which possess breath of life) can be equated with Zeus; (c) that Zeus is the absolute ruler over all that lives, including the parts of the cosmos; (d) Zeus is presented as the cause of the downfall and rise of all living creatures. The question here is whether this refers to the eternal cycle of the celestial beings and nature, or to a unique act on the part of Zeus; (e) all things spring 'from the pure heart of Zeus'. This line strikingly focuses attention on Zeus' 'heart'.

The motif of 'bondage' doubled: bonds of sleep and bonds of death

What more can we say about the background to the text about the Etruscan pirates? Aristotle's conception of the soul in our text, entirely in line with the Orphic tradition, is that it does not essentially belong to the sphere of generation and decay, but is there owing to a cause which precedes the existence of the concrete individual. In addition, however, Aristotle has a much greater problem in relation to the human intellect. Given his position that the intellect itself is

¹²³ W. Burkert (1968) 97-98.

¹²⁴ W. Burkert (1968) 100.

¹²⁵ W. Burkert (1968) 101.

¹²⁶ *Zeitschr. f. Papyrologie und Epigraphik* 47 (1982) after p. 300.

¹²⁷ A. Laks, G.W. Most (eds), *Studies on the Derveni Papyrus* (Oxford 1997) 9-22. Cf. A. Laks, 'Between religion and philosophy: the function of allegory in the Derveni Papyrus', *Phronesis* 42 (1997) 121-142; G.W. Most, 'The fire next time. Cosmology, allegories and salvation in the Derveni Papyrus', *J.H.S.* 117 (1997) 117-135; E. Hussey, 'The enigmas of Derveni. A review of André Laks and Glenn W. Most (eds), *Studies on the Derveni Papyrus*', *Oxford Stud. Anc. Philos.* 17 (1999) 303-324.

¹²⁸ This motif is also present in Pythagoreanism, which refers to the One as even/odd and as male/female. Cf. W. Burkert (1968) 106 n. 31.

immaterial and is directed to immaterial objects, he must regard the essence of the intellect as transcending the entire physical cosmos and as having entered it 'from outside' (*thyrathen*).¹²⁹

As a result of his strict separation of intellect and soul, which also formed the basis for his non-Platonic theology,¹³⁰ Aristotle has two problems instead of Plato's one. Plato had to explain how the souls of individual creatures became separated from the sphere of the World Soul and had 'descended', 'fallen', or crashed down to the sphere of mortality. Aristotle, however, had the double problem of explaining how *nous* principles had lost their unity with the transcendent, divine Intellect and had become 'bound' to bodies of ether, where they resembled the visible gods subordinate to God; and second, how parts from this cosmic ethereal sphere came to be clothed in garments of fire or air and as such could be the vital principles of all individual living creatures.

But of course Aristotle could not have talked about this in a discussion which confines itself to empirical reality and which he himself would have counted as 'secondary philosophy' or physics. Only a divine revelation or a myth of an ancient '*theologos*' would be able to give some idea of this. In any case we know that he used such a medium in his dialogue the *Eudemus*. There, in 'the revelation of Silenus', he doubtless spoke about the disaster which the 'being born' of the earthly individual entails for the soul. Perhaps we can surmise that Silenus did not just advise Midas, who had captured him, that the greatest evil for man is the descent into the sphere of mortality, but also explained to him how its consequences can be reversed. For a philosophy which speaks about 'bondage' will certainly have wanted to offer the hope of an 'unbinding', liberation.

¹²⁹ Cf. *Gener. anim.* II 3, 736b24; 28; cf. *Resp.* 4, 472a22. Cf. *Cael.* I 9, 279a11-22.

¹³⁰ This point was acutely formulated by E. Barbotin 'En somme, le schisme intérieur qui divisait le composé humain chez Platon subsiste chez son disciple, mais subit une transposition progressive: au lieu d'opposer le σῶμα à la ψυχή, celui-ci oppose finalement la ψυχή au νοῦς; dans la hiérarchie des principes constitutifs de l'homme, le dualisme s'est déplacé de bas en haut'. The point was already incisively made in Antiquity by Atticus, fr. 7 = Eus. *P.E.* XV 9, 14: Πάντως δὲ καὶ ἐν τούτοις διαφέρεται Πλάτωνι· ὁ μὲν γάρ φησι νοῦν ἄνευ ψυχῆς ἀδύνατον εἶναι συνίστασθαι, ὁ δὲ χωρίζει τῆς ψυχῆς τὸν νοῦν.

The descent of the rational principle into the sphere of mortality

Is there more to be said about Aristotle's explanation of the unnatural condition of human existence on earth? How did he argue persuasively that a soul not subject to mortality which is moreover the vehicle of an intellectual principle was robbed of its glory in the celestial regions and bound to a mortal body, which indeed it needs, on the way of the knowledge which it acquires through sense-perception, ultimately to rise above this changeable and perishable reality, and thus arrive once again at intellectuality, at spiritual awakening and spiritual (new) life?

Plato's task, as we said, was simpler. He only had the problem of how an immortal soul became bound to a perishable body. The solution he hit upon was that the divine Demiurge supplied soul principles to the visible heavenly gods, who formed the appropriate perishable bodies.

Aristotle's problem was more complicated. He had expressly kept the supreme deity apart from all demiurgic activity. He had presented the production of perishable beings as the work of the celestial gods. These celestial gods were qualitatively distinguished by Aristotle from the First Unmoved Mover. Central authority is held by the metacosmic *Nous*. Executive power is wielded by the visible gods, who occupy a subordinate position. Not being altogether incorporeal, they are characterized by desire (*orexis*) and emotions (*pathè*). Inasmuch as they are somatic, it followed for Aristotle that they cannot be regarded as unchanging in the same way as the transcendental *Nous*.¹³¹ Their condition must imply a periodicity, probably expressed in cosmic cycles and cultural cycles. We can assume that they were presented as the producers of all irrational animals and all kinds of plants. But the question remains how the reality of generation and decay which they bring about also came to contain beings who, though subject to generation and decay, possess a principle of intellectuality which is of perfect divinity.

Speculations on a possible synthesis

It seems reasonable to suppose that for this purpose Aristotle used mythical motifs which he partly drew from the ancient tradition. For

¹³¹ Cf. Pl. *Plt.* 269d-e; Arist. *Metaph.* A 7, 1072b4-7.

another part he probably presented his own ideas as ancient and venerable. This was easy to do if he put these ideas in the mouth of the demon Silenus. Silenus has a direct relationship with the god Dionysus, who played a prominent role in Orphism because he was associated with the 'liberation' from galling bonds. In the *Homeric Hymn* dedicated to him Dionysus was also coupled with Etruscan robbers.

An ancient Orphic tradition in which all things are thought to have sprung from *Nyx* (the goddess of the Night) was criticized by Aristotle in *Metaphysics* Λ 6.¹³² But another tradition, in which a god Phanes, whose name refers to light and radiance, is the fountainhead of all things, would perfectly suit Aristotle's philosophical perspective.

In this context Aristotle may have placed the figure of Dionysus by means of a kind of 'revelation of Silenus'. The tradition about the laceration of Dionysus, son of Zeus, by the Titans, after Dionysus had been lured into their sphere of power, could perhaps be interpreted as the imprisonment of pure intellectuality in the sphere of materiality, the senses, and emotionality.¹³³

This may have led the young Dionysus to forget transcendental reality and desire to become productive too, and to bring forth beings after his own image.¹³⁴ As a result of his youth and enticed by his own mirror image in the sphere of water and earth, he may have ended up, like a Narcissus figure, in the sublunary sphere.¹³⁵

In this way the birth of the human race may have been 'explained' as resulting from the 'descent' of the perfectly divine and intellectual Dionysus into the sphere of the Titans and of the senses and emotionality. (Such a motif of 'a Son', 'a Firstborn' who is an Image of the Father, could explain the affinity between Aristotelian theology

¹³² *Metaph.* Λ 6, 1071b27; cf. 1072a8; 10, 1075b26; N 4, 1091a30.

¹³³ It is relevant in this connection that Iamblichus, *Protr.* IX, 50, 27-51 = Arist. *Protr.* fr. 11 Ross; B 16 Düring; 73, 56 Gigon mentions the theme that living creatures, though they come into being 'by nature', nevertheless perhaps *παρὰ φύσιν* ... *γεγενῆσθαι διὰ τινὰ φθορὰν καὶ μοχθηρίαν*. F. Vendruscolo, "Pessimismo orfico" nell'Aristotele perduto. Una testimonianza trascurata?, *Koinonia* 13 (1990) 155-170 has connected this passage with Iamblichus' text on the Etruscan robbers. Cf. Aristid. *Quint. Mus.* II 17, p. 86, 27ff. and A.J. Festugière (1954; repr. 1971) 463-486.

¹³⁴ Aristotle interpreted all functions of the dianoetic soul as not being capable of realization 'without body'. Conversely, he may have presented the entrance into matter as a loss of purely theoretical intellectuality owing to the desire to produce.

¹³⁵ The name 'Narcissus' is etymologically related to '*narkos*', 'deep sleep', 'unconsciousness' and would chime well with the themes of Aristotle's *Eudemus*. Cf. J. Pépin (1970) 319-320.

and the doctrine of the *Logos* as 'first-created' Image of the divine Intellect in Philo of Alexandria,¹³⁶ the myth of the heavenly *Anthrôpos* in the Hermetic Corpus,¹³⁷ and the theme of the 'threefold Sonship' in the Gnostic doctrine of Basilides¹³⁸ and the theme of the Parthian prince in the *Song of the Pearl*.) Next, there is the descent into the sphere of generation and decay. Thus human beings may have been presented as beings whose souls, according to their emotionality and their passions, are Titan, i.e. cosmic and fine-corporeal, but according to their possibility of intellectuality, Dionysian, i.e. purely immaterial and metacosmic.

The motif of Dionysus' rebirth could have been used to exhort man to develop his intellectuality and turn away from the sphere of generation and decay and from all irrational emotionality. The biblical exhortation in Paul's letter to the Ephesians (5:14) 'Awake, O sleeper, and arise from the dead' could well have been part of this context of a revelation about the sphere of generation and decay as the sphere of the 'dead' and about the sphere of the soul burdened by its fine-corporeal shell as the sphere of sleep.

Bonds of sleep and other Orphic themes in Aristotle

We could say that Aristotle presented life in the sublunary sphere as a situation in which man's proper nature is shackled as 'by the chains of death'. Purely biotic life with all the processes of metabolism is for him, when he regards it from his ideal of perfectly intellectual life, merely a wretched remnant of life and its origin in the perfect life of the divine Intellect is barely recognizable.¹³⁹

But on another level, too, Aristotle talked about 'the unfreedom of human nature' and 'the bondage of the soul'. He does this not only in texts which can be traced back to his dialogues, but also in passages in the Aristotelian Corpus. He re-emphasizes the 'unfreedom' of human nature precisely when he describes 'theology' or 'first philosophy' as the 'most free' science.¹⁴⁰ And in our discussion of *De*

¹³⁶ Philo, *Opif.* 17-24.

¹³⁷ *Corp. Herm.* I 12-14.

¹³⁸ Hipp. *Haer.* VII 22, 1 - 24, 5.

¹³⁹ Cf. Arist. *Metaph.* A 7, 1072b27 and *Cael.* I 9, 279a28-30.

¹⁴⁰ *Metaph.* A 2, 982b25-983a10. The comparison of the condition of earthly man in his receptiveness to what is most knowable to that of 'bats' in daylight (*Metaph.* α 1, 993b9-11) is also a literary allusion to the 'dead souls' of Penelope's

anima II 1 we have seen that Aristotle distinguished between possession of the capacity for *theôria* and its actual practice. The former he compared to sleep, the second to waking.¹⁴¹ This, I believe, is the origin of all references to a 'sleeping World Soul' and to the 'oblivion' and 'unconsciousness' of souls.

In an earlier study I examined the remarkable report in Tertullian that Aristotle talked about a 'dreaming god Kronos'.¹⁴² I showed that Plutarch also mentions a dreaming god Kronos and presents the god's sleep as a chain with which Zeus fettered his old Titan adversary.¹⁴³ This could mean that the dreaming god Kronos belongs to a context which also suits the story about the Titans, the atrocities they committed against Ouranos, but also possibly against Dionysus, and the punishment (*timôria*) which they consequently endured.

I also suggested that Kronos may have been assigned the role of the World Soul, the principle connected and tied up with the ethereal sphere which is 'king of gods and human beings' but subject to Zeus, the perfectly awake Ruler of the Universe. The sleep of Kronos may have been an expressive representation of the fact that the World Soul is bound up with somatic reality, namely with the divine fifth element,¹⁴⁴ and so does not possess the glory of the wholly free, transcendent Intellect, but is primarily characterized as a practical and productive Intellect.

I believe that the series of 'light names' of the planets, which suggest a reduction in the intensity of their light, also fits in this framework, and that in Orphic fashion the highest god, as the source of intelligible light, is called Phanes, and that the celestial, visible light-bearers, which are 'bound' and 'unfree' on their level, are called Phainôn, Phaëthôn, Pyroeis, Stilbôn, and Phôsphoros, to indicate the fact that their light is a participated light, which they pass on to a decreasing extent in proportion to their distance from the spiritual source of all light.¹⁴⁵

suitors in *Od.* 24, 1-8.

¹⁴¹ Arist. *Anim.* II 1, 412a22-25; cf. *Eth. Nic.* X 8, 1178b18-32, with reference to the eternal sleep of Endymion.

¹⁴² Tert. *Anim.* 46. 10 = Arist. *Protr.* fr. 20 Ross; 979 Gigon (this text is not accepted by I. Düring as a witness to the *Protrepticus*). On this text, see A.P. Bos, *Cosmic and meta-cosmic theology in Aristotle's lost dialogues* 16-28; 71-98; Ital. ed. 74-91; 151-187.

¹⁴³ Plu. *De facie* 941F ff.

¹⁴⁴ Aristotle could have based this on statements by Plato himself, as in *Phdr.* 246b: ψυχὴ πᾶσα παντὸς ἐπιμελεῖται τοῦ ἀψύχου...

¹⁴⁵ Cf. *Mu.* 2, 392a23-28. One feature of the 'light names' in any case is that they do not connect the planets with Zeus and the Olympian gods. And the name of

Note that Aristotle himself, too, used the image of the 'golden chain' in *Iliad* VIII 1-24 for the relationship of the celestial gods with the transcendent *Nous*. The power which proceeds from God like the pull of a magnet was also presented by Aristotle as a bond which keeps the entire cosmos together.¹⁴⁶ When Philo of Alexandria corrects the image of the celestial gods in their chariots in Plato's *Phaedrus* by saying that God gives all seven planets their own chariot as charioteers, but keeps the reins of all in his own hands, this is a correction which Philo makes on account of his high regard for Aristotle's monarchianist theology.¹⁴⁷

As regards the 'bonds of the soul', we should also look more closely at the text in Proclus discussed previously which talks about the 'descent of the soul' and of its λήξεις.¹⁴⁸ Unlike *De anima*, Aristotle's dialogues apparently talked about the 'lèxeis of the soul'. A.J. Festugière translates this Greek word by 'destinations'.¹⁴⁹ But λήξεις can also stand for 'what falls to someone'. We could connect this with 'the body in which it takes up residence' and in which it is clothed, which Aristotle talks about in *De anima* I 3.¹⁵⁰ We can think here of all the 'presents' which the *nous*, descending into the sphere of the celestial gods 'from outside', receives from them. These would include the 'astral coverings' which the *nous* principle receives in its descent, away from its Origin, through the celestial spheres. These 'coverings' would also cause oblivion in the *nous* principle. The seven planetary spheres could well represent decreasing degrees of purity of their intellectual powers and increasing degrees of passion, analogous to the difference in quality of earthly souls in proportion to the purity of the *pneuma* which is the instrument of their soul principle. These presents readily suggest the story about the presents and toys by means of which the Titans tried to lure Dionysus into their power and sphere, in order to remove him from the sight of his divine Father (Zeus).¹⁵¹

Kronos is no longer linked to one of the planets either. In this way his name may have been connected with the outer celestial sphere and with the 'Isles of the Blessed'.

¹⁴⁶ Cf. *Motu anim.* 4, 699b35ff.; *Mu.* 6, 397b24-26.

¹⁴⁷ Philo *Cher.* 24 and *Conf.* 170.

¹⁴⁸ Procl. *In Ti.* 338c = Arist. *Eudem.* fr. 4 Ross; 66 Gigon.

¹⁴⁹ Proclus, *Commentaire sur le Timée*, transl. et notes par A.J. Festugière (Paris 1968) vol. 5, 205: 'destinées posthumes'

¹⁵⁰ Cf. *Anim.* I 3, 407b20-26 and chap. 4 above.

¹⁵¹ Cf. Clem. *Protr.* 2, 17, 2 – 18, 2. In 18, 1 he mentions the following lures: ἀστράγαλος, σφαῖρα, στρόβιλος, μήλα, ῥόμβος, ἔσοπτρον, πόκος.

The fact that some traditions also mention a 'mirror' with which Dionysus was lured to destruction by the Titans may derive from the same tradition. Plotinus talks about a 'mirror of Dionysus'¹⁵² and the motif of Hermetic Corpus I, where *Anthrôpos* sees his own reflection in the Water of the sublunary sphere and falls in love with it,¹⁵³ may be a transformation of the ancient Orphic motif in the setting of Aristotle's *Eudemus*. This reflection motif is in turn related to the Narcissus motif mentioned earlier.

It is significant, too, that Dionysus' recovery and rebirth seem to have started from his 'heart'.¹⁵⁴ On the orders of Zeus Dionysus' heart is saved by Pallas Athena from *sparagmos* (laceration) by the Titans. This element of the tradition might well indicate Aristotle's authorship of the Orphic myth, given the fact that he located the soul-principle in the heart and considered *pneuma* to be particularly connected with it as well.

The regeneration of Dionysus by the collection all the scattered sparks of *nous* or pneumatic components from the material cosmos results in a new Dionysus, and this could explain the mysterious name 'Zagreus' associated with Dionysus. It could be etymologically interpreted (in the manner of Plato's *Cratylus*!) as 'Zeus/the life that has awakened' (Ζῆν / ἐγείρω). For the soul's return to its Origin can be described as 'the waking of those who sleep, and their rising from the world of the dead'.¹⁵⁵ And Aristotle had equated the 'first entelechy' with 'sleeping' and the 'second entelechy' with 'being awake'.

A. Grilli has argued that the combination of the notions of 'dying' and 'being initiated' may go back to Aristotle's *Eudemus* too.¹⁵⁶ Various testimonies from Antiquity bear witness that Aristotle, following

¹⁵² Plot. *Enn.* IV 3 [27] 12, 2. For this, see J. Pépin, 'Plotin et le miroir de Dionysos', *Rev. intern. de philos.* 24 (1970) 304-320. As a curiosity I also refer here to the two passages in the New Testament which involve mirrors in a not entirely transparent context: James 1:23 ἀνδρὶ κατανοοῦντι τὸ πρόσωπον τῆς γενέσεως αὐτοῦ ἐν ἑσόπτρῳ. I Cor. 13:12: βλέπομεν γὰρ ἄρτι δι' ἑσόπτρου ἐν αἰνίγματι, τότε δὲ πρόσωπον πρὸς πρόσωπον.

¹⁵³ *Corp. Herm.* I 14.

¹⁵⁴ Cf. Procl. *In Ti.* II 145, 18 Diehl = O. Kern, *Orphicorum fragmenta* 210.

¹⁵⁵ Cf. Eph. 5:14: Ἔγειρε, ὁ καθεύδων καὶ ἀνάστα ἐκ τῶν νεκρῶν, καὶ ἐπιφάσει σοι ὁ Χριστός. Cf. O. Kern, *Orphicorum fragmenta* no's 210-214 for a discussion of the name 'Zagreus'. Cf. M. Fauth, *P.W.-R.E.* II 18 (Stuttgart 1967) 2221-2283 and M.L. West, *The Orphic Poems* (Oxford 1983; repr. 1985) 152-154. For the name 'Dionysus', J.E. Harrison, *Themis. A study of the social origins of Greek religion* (Cambridge 1912) 48 n. 3 proposed a derivation from Διός and νῦσος, which means 'young Zeus'.

¹⁵⁶ A. Grilli, 'Cicerone e l'*Eudemò*', *Parola del Passato* 17 (1962) 96-128, esp. 102.

on from Plato,¹⁵⁷ used the notion of 'being initiated' to denote the highest degree of philosophical enlightenment.

Plutarch, *De Iside et Osiri* 382D-E

(= Aristotle, *Eudemus* fr. 10 Ross; 1012 Gigon)

The intuition of the intelligible and the pure and simple enlightens the soul like a flash of lightning and the soul thus suddenly touches and sees it. Hence Plato and Aristotle call this phase of philosophy the 'epoptic phase', because those who have left behind the sphere of the *doxa* and what is mixed and multifarious in human existence leap, by means of their reason (*logos*), to that primary and simple and immaterial principle, and thus attain to the pure truth connected with it. They therefore believe that the end point (goal) of philosophy is, as it were, a kind of 'initiation'.

Similar statements are found in Synesius and Michael Psellus.¹⁵⁸ Grilli points out that Themistius, after a closely related passage, goes on to say: 'hence the words τελευτᾶν (dying) and τελεῖσθαι (being initiated) and their meanings strongly resemble each other'.¹⁵⁹ In his view, we can safely assume that this wordplay goes back to Aristotle's *Eudemus*.¹⁶⁰ For it was Aristotle who had presented the achievement of theoretical activity as the ultimate entelechy of human life and as the ultimate liberation.

K. Gaiser pointed to another relation between Aristotle and the Orphic tradition in a valuable article devoted to an elegy attributed to Aristotle and, Gaiser believes, addressed to Eudemus of Cyprus, Aristotle's friend, who took centre stage in the eponymous dialogue *Eudemus* or *On the soul*.¹⁶¹ Gaiser's interpretation makes it clear for the first time that the poem need not be dated after Plato's death. And Gaiser also puts paid to W. Jaeger's claim that the poem was dedicated to Eudemus of Rhodes.¹⁶² The elegy talks about the erection of an altar 'for the man who should not even be praised by evildoers'. This undoubtedly refers to Plato and certainly we should take

¹⁵⁷ Cf. Pl. *Symp.* 210a-212a.

¹⁵⁸ Synes. *Dion* 10, 48a = Arist. *Philos.* fr. 15 Ross; 963 Gigon; Michael Ps. *Schol. ad Joh. Climacum* 6, 171 = Arist. *Philos.* fr. 15 Ross.

¹⁵⁹ Them. *In De an.* In Stob. IV 1089, 14ff.

¹⁶⁰ A. Grilli (1962) 102.

¹⁶¹ K. Gaiser, 'Die Elegie des Aristoteles an Eudemos', *Mus. Helv.* 23 (1966) 84-106, esp. 93ff. The poem is passed down by Olymp. *In Gorg.* (ed. L.G. Westerink) 214, 13 - 215, 11; 708 Gigon and included in V. Rose, *Aristotelis Fragmenta* (Leipzig 1886) fr. 673 and W.D. Ross, *Aristotelis fragmenta selecta* 146 and *Aristoteles Privatorum scriptorum fragmenta*, recogn. M. Plezia (Leipzig 1977) 5.

¹⁶² W. Jaeger, 'Aristotle's verses in praise of Plato', *Class. Quart.* 21 (1927) 13-17.

Aristotle's praise of him very seriously. Of Plato it is then said: 'he who alone or first made it crystal-clear to mortals in word and deed how man can become good and blessed at the same time'. The final line is then translated by Gaiser as follows: 'Nicht jetzt in diesem Leben aber ist es irgendeinem jemals möglich, sich dies erlernend anzueignen'.¹⁶³ After extensively analyzing the background to this passage, Gaiser concludes: 'Der letzte Vers des aristotelischen Fragmentes scheint also auf der verbreiteten orphisch-pythagorischen Vorstellung von der Seelenwanderung zu beruhen'.¹⁶⁴ The gist seems to have been that what Plato learned and achieved was not discovered in this earthly existence but in a life of perfect knowledge.¹⁶⁵ Perhaps we should go further and argue that the *Elegy* belonged to the text of Aristotle's dialogue itself.¹⁶⁶

An Orphic theogony ascribed to Eudemos the Peripatetic

In connection with Aristotle's Orphic interests it is important to note that Damascius locates an important source of our knowledge of Orphic theogonies in the work of the Peripatetic Eudemos.¹⁶⁷ It is usually assumed that Damascius is referring to Eudemos of Rhodes, who was a pupil of Aristotle and whose writings on physics and mathematics were frequently cited by later authors. However, no book title suggesting such a subject has been attributed to Eudemos of Rhodes. In his recent study on Orphic literature M.L. West has discussed at length the information supplied by Damascius.¹⁶⁸ His conclusion is that the *Theogonia* written by Eudemos must have been

¹⁶³ Οὐ νῦν δ' ἔστι λαβεῖν οὐδενὶ τὰντά ποτε. See K. Gaiser (1966) 91.

¹⁶⁴ K. Gaiser (1966) 90.

¹⁶⁵ K. Gaiser (1966) 92: 'Was Platon erstmals gewiss gemacht und verwirklicht hat, ist also nicht in diesem Leben gewonnen, sondern in einem Dasein der reinen Erkenntnis'.

¹⁶⁶ K. Gaiser (1966) 104 judges that the *Elegy* was written around 354 BC and that it shows how impressed Aristotle was by the murder of Dion. Of course, this entire theme is appropriate to the dialogue *Eudemos*, which was closely tied up with the Sicilian adventure.

¹⁶⁷ *Damascii successoris, Dubitationes et solutiones de primis principiis, in Platonis Parmenidem* ed. C.A. Ruelle II vols (Paris 1889; repr. Amsterdam 1966) vol. I 319, 8: 'Ἡ δὲ παρὰ τῷ περιπατητικῷ Εὐδήμῳ ἀναγεγραμμένη ὡς τοῦ Ὀρφέως οὐσα θεολογία .. Cf. *Damascius, Traité des premiers principes*, texte établi par L.G. Westerink, et traduit par J. Combès (Paris 1986-1991) vol. III (1991) 162ff. See also F. Wehrli, *Die Schule des Aristoteles* Heft VIII *Eudemos von Rhodos* (Basel/Stuttgart 21969) fr. 150.

¹⁶⁸ M.L. West (1983) 116-175.

in circulation from the fourth century BC and that Plato's *Cratylus* already refers to it.¹⁶⁹ This means that Eudemus' teacher, Aristotle, must have been familiar with this *Theogonia*. Indeed, he may well have used it for his own philosophical purposes. This is all the more probable if, in the words of W. Jaeger, we must 'relearn our history' in the sense of recognizing that in his lost works Aristotle supported the Orphic tradition of pre-existent guilt as the cause of the soul-principle's fall into materiality; but also that he held the same view when he wrote *De anima* and *De generatione animalium*. For this means that *Aristotle's entire lifework was dominated by the 'Titanic meaning perspective'*, and that the Jaegerian hypothesis of a 'purely scientific interest' in a kind of positivistic sense *never applied to any period of Aristotle*.

Perhaps in reading Damascius' report we should keep an open mind as to its provenance. It is natural to connect his statement with a work by the Peripatetic Eudemus of Rhodes. But certainly we could also consider that he may be referring to Eudemus of Cyprus. For Damascius' text reports that the Eudemus whom he is citing not only talked about Orpheus but also about Homer, Acusilaus, Epimenides, Pherecydes, the Babylonians, the Magicians, and the Sidonians. And these are all discussed in the context of the doctrine of the first principles or *archai*. This theme was also an important subject of debate in Aristotle's lost dialogues. So much can be gathered from the Introduction to the work of Diogenes Laertius on the Greek schools of philosophy.¹⁷⁰ He refers there to Aristotle's first book *On philosophy*. Because we cannot rule out that Aristotle's dialogue the *Eudemus* may have been designated as the work '*On philosophy*' in Antiquity, we should leave open the possibility that what Damascius is reporting here goes back to the Peripatetic work the *Eudemus* by Aristotle himself.

A text in the Protrepticus by Clement of Alexandria

There is something further to add to the discussion of the theme of the 'Etruscan robbers'. In his edition of all the texts which he believes can be connected with Aristotle's *Protrepticus*, Düring incorporated as a 'related text' that goes with the passages from Augustine

¹⁶⁹ M.L. West (1983) 174.

¹⁷⁰ D.L. 1 *Prooem.* 8 = Arist. *Philos.* fr. 6 Ross; 23 Gigon. In chap. 9 Diogenes also mentions reports by Eudemus of Rhodes on the Magicians.

and Iamblichus quoted above a passage in the *Protrepticus* by Clement of Alexandria which also talks about the torment which the prisoners of certain 'barbarians' suffered by being tied alive to corpses. But the perpetrator of this torment is altogether different in Clement! The passage in question reads:

7. 4. He [Christ] has not just now taken pity on our wanderings, but as of old, in the beginning; but now he has actually appeared to save us. For the wicked crawling beast [the Snake; the Devil] enslaves people to this very day by his bewitchment, and he damages them, so to speak, by a punishment like that of barbarians who, it is said, bind their prisoners to corpses, so that they rot together. 5. I mean thereby that this wicked tyrant, the snake, ties all those he can get into his power, from their birth, to wood and stone and images and idols, with the wretched bond of idolatrous superstition, and while sacrificing these alive to them, he buries them with the idols, so that he brings ruin upon them together. 6. Hence (for it is one who deceived Eve of old, and sends all other people to their deaths) he is also the one ally and helper, the Lord, who foretold this of old through the prophets, but now exhorts us actively and visibly to seek our salvation.

8. 1. Let us therefore pay heed to the apostolic message and flee 'the Prince of the power of the Air, the spirit that is at work in the sons of disobedience' [Eph. 2:2] and take refuge in our Saviour and Lord ...¹⁷¹

The connection with the texts of Augustine and Iamblichus resides mainly in the second sentence of 7. 4. But if we look at part of the broader context in which Clement places this passage, it becomes all the more probable that there is a relation with the same lost work by Aristotle to which Augustine refers.¹⁷² I. Düring believes that the text

¹⁷¹ Clem. *Protr.* 1. 7. 4. – 8. 1 (ed. M. Marcovich, Leiden 1995): 'Ὁ δὲ οὐ νῦν γε πρῶτον ὄκτειρεν ἡμᾶς τῆς πλάνης, ἀλλ' ἄνωθεν ἀρχήθεν, νῦν δὲ ἤδη ἀπολλυμένους ἐπιφανείς περισέσωκεν. τὸ γὰρ πονηρὸν καὶ ἐρπυστικὸν θηρίον χοιτεῦον καταδουλοῦται καὶ αἰκίζεται εἰσέτι νῦν τοὺς ἀνθρώπους, ἐμοὶ δοκεῖν, βαρβαρικῶς τιμωρούμενον, οἱ νεκροὶς τοὺς αἰχμαλώτους συνδεῖν λέγονται σώμασιν, ἔστ' ἂν αὐτοῖς καὶ συσσωπάσιν. 5. 'Ὁ γοῦν πονηρὸς οὗτος δυνάστης καὶ δράκων, οὗς ἂν οἷός τε εἴη ἐκ γενετῆς σφετερίσασθαι, λίθοις καὶ ξύλοις καὶ ἀγάλμασιν καὶ τοιοῦτοις τισὶν εἰδώλοις προσσφίγξας τῷ δεισιδαιμονίας ἀθλίῳ δεσμῷ, τοῦτο δὴ τὸ λεγόμενον, ζῶντας (νεκροῖς) ἐπιφέρων συνέθαπεν αὐτούς, ἔστ' ἂν καὶ συμφοθάρωσιν. Οὐ δὲ χάριν (εἰς γὰρ ὁ ἀπατεῶν, ἄνωθεν μὲν τὴν Εὐάν, νῦν δὲ ἤδη καὶ τοὺς ἄλλους ἀνθρώπους εἰς θάνατον ὑποφέρων) εἰς καὶ αὐτὸς ἐπικουρὸς καὶ βοηθὸς ἡμῖν ὁ κύριος, προμηνύων ἀρχήθεν προφητικῶς, νῦν δὲ ἤδη καὶ ἐναργῶς εἰς σωτηρίαν παρακαλῶν. 8. 1. Φύγωμεν οὖν ἀποστολικῇ πειθόμενοι παραγγελίᾳ 'τὸν ἄρχοντα τῆς ἐξουσίας τοῦ ἀέρος, τοῦ πνεύματος τοῦ νῦν ἐνεργούντος ἐν τοῖς υἱοῖς τῆς ἀπειθείας', καὶ τῷ σωτῆρι τῷ κυρίῳ προσδράμωμεν...'

¹⁷² C. Mondésert, *Clément d'Alexandrie, Le Protreptique* (Paris 1949) 61 n. 2 also relates this passage to Arist. fr. 60 Rose and Virgil *Aen.* 8, 485ff. See also G. Lazzati, *L'Aristotele perduto e gli scrittori cristiani* (Milano 1937) and J. Piquemal, 'Sur une métaphore de Clément d'Alexandrie: les dieux, la mort, la mort des dieux', *R.Ph.F.*

quoted warrants the conclusion that Clement was acquainted with Aristotle's *Protrepticus*. But he allows for the possibility that Clement used a different source. For, says Düring, 'he uses it for quite a different purpose than Aristotle, to illustrate the relationship of idolaters to the idols'.¹⁷³

It is clear that, by interpreting the 'bondage to corpses' as idolatry, Clement has adapted the theme of the Etruscan atrocity to suit his own purposes. Certainly it is a brilliant idea to present idolatry, i.e. the paying of divine homage to cosmic beings rather than to the metacosmic God, as the 'death of the soul'. In the rest of his book Clement develops this motif through new associations, so that it becomes one of the most important in the whole work.¹⁷⁴ However, the transposition of the image of the Etruscan robbers to the Devil may in fact have been occasioned by Clement's example. For the original context of the motif of the atrocity committed by the Etruscan robbers is concerned with 'the birth of man'.¹⁷⁵ The references to crimes and punishment immediately suggest the Orphic tradition and the figures of Dionysus and the Titans (whose name was already connected by Hesiod with 'guilt and punishment').¹⁷⁶ Many authors have pointed to the relation of Aristotle's *Eudemus* to this theme.¹⁷⁷ This may also mean that the 'revelation of Silenus to King Midas'¹⁷⁸ in the *Eudemus* talked about the birth of humankind in terms of a descent of Dionysus into the sphere of the Titans, which led to parts

88 (1963) 191-198. J. Brunschwig (1963) 176 mentions that according to the historian Philochorus the word 'tyrant' should be etymologically derived from 'Tyrrhenian' 'on account of the violent and rapacious character of the Tyrrhenians'. There is a curious report in Clem. *Str.* I 62, 2 (cf. 66, 1) that, according to some, Pythagoras was not a Samian but a Tyrrhenian. According to the MSS these 'some' are Aristoxenus, Aristarchus, and Theopompus. But Preller proposed to read 'Aristotle' here instead of Aristarchus. Cf. Arist. *Pyth.* fr. 17 Ross.

¹⁷³ I. Düring (1961) 265.

¹⁷⁴ Cf. J. Piquemal (1963) 193.

¹⁷⁵ Cf. Iamblichus in the text quoted: οἱ πρῶτον εὐθὺς φύσει συνέσταμεν .. ὥσπερ ἂν ἐπὶ τιμωρίᾳ πάντες, and Augustine: nos ob aliqua scelera suscepta in vita superiore ... natos esse. It is significant, too, that Clement also talked about ἐκ γενετῆς. And Clement was familiar with the tradition according to which after the Fall Adam and Eve lost their 'light-bodies' and received a coarse-material body (the 'garments of skins' in Gen. 3:21). Cf. S.P. Brock, 'Clothing metaphors as a mean of theological expression in Syriac tradition', repr. in *Studies in Syriac Christianity* (Aldershot 1992) ch. XI.

¹⁷⁶ Hes. *Th.* 207-210.

¹⁷⁷ Cf. G. Méautis, 'L'Orphisme dans l'*Eudème* d'Aristote', *R.E.A.* 57 (1955) 254-266; J. Brunschwig (1963) and J. Piquemal (1963).

¹⁷⁸ Cf. Arist. *Eudem.* fr. 6 Ross; 65 Gigon. In Clem. *Protr.* 2, 13, 3 Midas the Phrygian is presented as a pupil of Orpheus and as one of those who initiated mysteries.

of Dionysus ending up in the sphere of generation and decay. The Titans may well have played a role in a mythical explanation of the generation and decay of individual living creatures that have something divine (a remainder of Dionysus) in them, namely their capacity to achieve intellectuality.¹⁷⁹ As the efficient cause of the generation of a new specimen of the species 'man', Aristotle always designated not only the father but also the sun (and the ecliptic).¹⁸⁰

We can add that D. Zeller has recently argued that, as regards the theme of the 'soul's death', Philo of Alexandria already referred to the motif of the 'Etruscan robbers' in Aristotle's *Eudemus*.¹⁸¹

However, as we said, L. Brisson and others have noted that Aristotle seems unfamiliar with the myth of Dionysus in the works of the Aristotelian Corpus. Yet one place in the Corpus seems to refer to the story about the laceration of Dionysus. It is the text in *Problems* III 43:

Why is it not usual to roast what is boiled, but it is to boil what is roasted? On account of what is passed down during the initiation? Or because people learnt roasting before boiling? For in the old days everything was roasted.¹⁸²

Just as Plato in his cosmogonic myth of the *Timaeus* depicted the generation of mortal creatures as the work of the 'younger, visible celestial gods', as executors of the great Demiurge, so Aristotle in his *Eudemus* may have related a cosmogonic myth in which the undesirable situation of earthly, mortal beings with a potential for intellectuality and transcendence is presented as ensuing from an act by the visible celestial gods (the Titans), who integrated the body of

¹⁷⁹ Plot. *Enn.* II 9 [33] 13, 19 declares emphatically, in his polemic with the Gnostics, that the planets exist: οὐ τυραννίδος ἔνεκα ἐν τῷ παντί ὄντα, ἀλλὰ κόσμον καὶ τάξιν παρέχοντα.

¹⁸⁰ Cf. *Phys.* II 2, 194b13: ἄνθρωπος γὰρ ἄνθρωπον γεννᾷ καὶ ἥλιος. *Metaph.* Λ 5, 1071a13-16: ἀνθρώπου αἵτιον .. τι ἄλλο ἔξω οἶον ὁ πατήρ, καὶ παρὰ ταῦτα ὁ ἥλιος καὶ ὁ λοξὸς κύκλος. Cf. also *Gener. corr.* II 10, 336a31; b6; b17 and *Gener. anim.* II 4, 738a16-18.

¹⁸¹ D. Zeller, 'The life and death of the soul in Philo of Alexandria. The use and origin of a metaphor', *Studia Philonica Annual* 7 (1995) 19-55, esp. 48-49, with reference to Philo, *Leg.* I 108.

¹⁸² Cf. S. Reinach, 'Une allusion à Zagreus dans un Problème d'Aristote', in *Rev. archéol.* 9 (1919) 162-172. Cf. P. Boyancé, *R.E.A.* 43 (1941) 168 and J. Brunschwig (1963) 179; P. Courcelle, 'L'âme en cage', *Parusia. Festgabe für Joh. Hirschberger* (Frankfurt a. M. 1965) 103-106. The Greek text of the passage in question reads: Διὰ τί τὸ ἐφθὸν ὁπτᾶν οὐ νόμος, ὁπτὸν δὲ ἔψειν νόμος; Πότερον δὲ διὰ τὰ λεγόμενα ἐν τῇ τελετῇ; Ἡ ὅτι ὕστερον ἔμαθον ἐφθᾶ ἢ ὁπτά; τὸ γὰρ ἀρχαῖον ὥπτων πάντα. On this intriguing text, see also M. Detienne, *Dionysos mis à mort* (Paris 1977) 161-207. However, M.L. West (1983) 161 is inclined to date this text much later to the Roman period.

Dionysus, apart from his heart, into their Titan existence, and thus brought about the connection of Dionysus' divinity with corporeality of an even lower order, namely dead matter, in an atrocity comparable with that of the Etruscan robbers. In this interpretation I differ somewhat from J. Brunschwig, who in a highly valuable article drew attention to the parallel between the atrocity of the Etruscans against their prisoners and the crime of the Titans against Dionysus. His conclusion was: 'Tel Dionysos, démembré et déchiré; tel aussi le prisonnier des pirates tyrrhéniens, étalé membre à membre le long de son macabre partenaire'.¹⁸³

Cosmic gods and demons as 'robbers'

We can note that the text of Iamblichus quoted says that no one will deem earthly mortals to be 'happy and blessed', whereas *Eudemus* fr. 6 Ross; 65 Gigon states that the deceased are 'blessed and happy'.

This could provide an attractive explanation for the fact that the early Christian tradition so frequently presents 'the powers of the air' or the cosmic archons as 'robbers' and that their malevolent activity is blamed for 'man's fall', including the fall into matter and corporeality.

An instructive article on this subject was written by G.J.M. Bartelink.¹⁸⁴ He points to Tatian, who in his *Address to the Greeks* says: 'The demons do not heal but cunningly make people their prisoners. The admirable Justin has therefore rightly declared that they resemble robbers'.¹⁸⁵ The robbers are mentioned in an allegorical exegesis of the parable of the 'good Samaritan'.¹⁸⁶ It identifies the

¹⁸³ J. Brunschwig (1963) 182. I believe that a weak yet recognizable echo of the Aristotelian motif can be heard in *Corp. Herm.* VII 2, where the mortal body is described as: ὃν φορεῖς χιτῶνα, τὸ τῆς ἀγνωσίας ὕψασμα, τὸ τῆς κακίας στήριγμα, τὸν τῆς φθορᾶς δεσμόν, τὸν σκοτεινὸν περίβολον, τὸν ζῶντα θάνατον, τὸν αἰσθητὸν νεκρόν, τὸν περιφόρητον τάφον, τὸν ἔνοικον ληστὴν. Cf. A.J. Festugière, *La révélation d'Hermès Trismégiste* (Paris 1946), vol. I 84, n. 11.

¹⁸⁴ G.J.M. Bartelink, 'Les démons comme brigands', *Vigil. Christ.* 21 (1967) 12-24.

¹⁸⁵ Tatian, *Or.* 18 p. 20, 14-17: οὐ θεραπεύουσιν οἱ δαίμονες, τέχνη δὲ τοὺς ἀνθρώπους αἰχμαλωτεύουσιν· καὶ ὁ θαυμασιώτατος Ἰουστίνος ὀρθῶς ἐξεφώνησεν εἰκέναι προειρημένους λησταῖς. M. Whittaker in *Tatian, Oratio ad Graecos and fragments* (Oxford 1982) comments on this text that the passage in question does not occur in Justin's work. See, however, Justin, *Apol.* I 12, 5-6. The term λησταί is already used in *h. Hom.* VII 7 for the Tyrrhenian pirates who kidnapped Dionysus to claim a ransom for him.

¹⁸⁶ Clem. *Quis Dives* 28, 3.

good Samaritan with Jesus Christ, who has compassion for the people who have been mortally wounded by the world rulers of darkness with fears, desires, anger, sorrow, deceit, and pleasure. For all these wounds Jesus alone is the healer, who utterly eradicates all passions.¹⁸⁷ Origen, too, explained the parable of the good Samaritan in terms of 'the fall' of Adam.¹⁸⁸

Bartelink indicates that Tatian and Clement of Alexandria are the first to talk about the demons as 'robbers'. And precisely the work of both shows many traces of direct or indirect influence of Aristotle's *Protrepticus* and of the Orphic tradition on the atrocity of the Titans against Dionysus.¹⁸⁹ Hence I would suggest that this early Christian tradition results from the Christian notion of 'man's fall' and the Greek philosophical notion of the 'the descent of the *nous* principle into material reality'. In that case the basis for this metaphor is formed not just by biblical texts, but also, and perhaps primarily, by a striking motif in the Orphic philosophical tradition.

In the Gnostic writings of Nag Hammadi we also encounter the theme that the soul which loses its unity with the Father falls into the hands of the cosmic powers, who are characterized as 'robbers'.¹⁹⁰

A remarkable hybrid form seems to be preserved in the twelfth-century text *Hortus deliciarum*, where the 'descent from Jerusalem to Jericho' is explained as the fall of the first man, from Paradise to the

¹⁸⁷ Clem. *Quis Dives*: Τίς δ' ἂν ἄλλος εἴη πλὴν αὐτὸς ὁ Σωτήρ; ἢ τίς μᾶλλον ἡμᾶς ἐλεήσας ἐκείνου, τοὺς ὑπὸ τῶν κοσμοκρατόρων τοῦ σκότους τεθνατωμένους τοῖς πολλοῖς τραύμασι, φόβοις, ἐπιθυμίαις, ὀργαῖς, λύπαις, ἀπάταις, ἡδοναῖς; Τούτων δὲ τῶν τραυμάτων μόνος ἰατρὸς Ἰησοῦς, ἐκκόπτων ἄρδην τὰ πάθη πρόρριζα.

¹⁸⁸ Orig. *hom. 34 in Luc.* (ed. M. Rauer, *GCS* 9 (1930) 201, 22). Cf. *Comm. in Mt. XVI* (*P. G.* 13, 1401D-1404A). For further examples drawn from Ambrose and Augustine, see G.J.M. Bartelink (1967) 15-16. See also *Apocryphon of John* 21: 'the tomb of the newly-formed body with which the robbers had clothed the man [Adam], the bond of forgetfulness; and he became a mortal man'.

¹⁸⁹ For Clement, see *inter alia* his *Protr.* 1, 2, where he connects the bacchic Dionysus cult with Eve; 2, 14, where he suggests that the Phrygian Midas (to whom Silenus gave his revelation in the *Eudemus*) was the first to conduct mysteries; 2, 17, 2 – 18, 2 on the atrocity of the Titans against Dionysus. Tert. *Anim.* 2, 3 mentions the Phrygian Silenus as the author of a holy book and as the teacher of Midas. Cf. id. *Hermog.* 25; *Pall.* 2, 1. See also J.H. Waszink, 'Traces of Aristotle's lost dialogues in Tertullian', *Vigil. Christ.* 1 (1947) 137-149. The historian Theopompus had also put a description of the abode of the blessed in Silenus' mouth (*F.H.G.* fr. 75b).

¹⁹⁰ Cf. *Exegesis on the soul* II 127, in J. Robinson (ed.) *The Nag Hammadi Library in English* (Leiden 1977) 181. See also *Gospel of Philip* 53: 'It fell into the hands of robbers and was taken captive, but he saved it'; *Acts of Peter and the twelve Apostles* 7-8. See now also G.P. Luttikhuisen, 'Gnostic hermeneutics', R. Kessler; P. Vandermeersch (eds), *God, biblical stories and psychoanalytic understanding* (Frankfurt a. M. 2001) 171-185, esp. 175-177.

sphere of the Moon, in which the satanic robbers take away his 'garment of immortality' and clothe him in a mortal body.¹⁹¹ This seems to explain the fact that the cosmic archons are repeatedly presented in Gnostic texts as 'dealers in bodies'.¹⁹²

Concluding remarks

In chapter 2 I showed that a number of crucial problems have arisen in relation to Aristotle's psychological views. The information which can be distilled from texts apparently going back to lost works by Aristotle cannot be reconciled with the standard interpretation of *De anima*. In the latter view the soul is the form, the entelechy, or the *eidos* of the visible body. The generally accepted position is that the soul cannot exist separately from this body.

The theories which seem connected with the lost works raised, in their turn, an insoluble problem. For these texts talk about the soul as an *eidos*, but also about the soul as consisting of a special, divine body. Four texts from Neoplatonic commentaries pass down the tradition that in his dialogue the *Eudemus* Aristotle argued against the Pythagoreans, virtually as in *De anima*, that the soul cannot be regarded as the 'harmony of the body' but should be seen as a kind of *eidos*.¹⁹³

But a number of other texts, reproduced in chapter 14 above, give the firm impression that Aristotle held the human soul to consist of a special body, i.e. ether.¹⁹⁴

Those who wished to honour both traditions regarding Aristotle's works were forced to ascribe them to different writings, even though the texts in question gave no compelling reason or solid basis for

¹⁹¹ Cf. G.J.M. Bartelink (1967) 18.

¹⁹² Cf. *Authoritative teaching* 32: 'She gave the body to those who had given it to her, and they were ashamed, while the dealers in bodies sat down and wept'.

¹⁹³ See *Eudem.* fr. 7a-d Ross; 59; 60; 63; 62 Gigon.

¹⁹⁴ G. Freudenthal (1996) 86-89 gives an interesting description of two recent discussions of the soul doctrine in *De philosophia* by D.E. Hahm and B. Dumoulin. I quote his remarkable conclusion here: 'Amusingly, each of these contemporaneous challengers of the received interpretations of *De philosophia* unquestioningly accepts what the other discards. Hahm rejects the idea that *De philosophia* contained a corporeal theory of soul with the traditional argument that Aristotle could not have shifted from an idealist position in the *Eudemus* to a hylomorphist one and back again; Dumoulin, for his part, does not question the assumption that *De philosophia* upheld five elements and thus believes that the substance common to the human mind and to the stars was the ether, Aristotle's fifth element'.

doing so. However, we could also consider that Aristotle held and supported *both these views at the same time* in the sense that, as a true pupil of Plato, he supported the incorporeality and form character of the soul against every kind of materialism and physicalism, but that he also, unlike Plato, interpreted the emotions (*pathè*) of the soul as 'not without a somatic aspect' due to the 'bond' of the *nous* principle with a somatic vehicle.

This option becomes all the more obvious if in fact a revision of the traditional interpretation of *De anima* is necessary and we must distinguish between the soul as entelechy and *eidos* on the one hand and an instrumental body of the soul, which explains the possibility of the soul's emotions, on the other hand. This entirely removes the gap between *De anima* and the lost works, but also that between two views within Aristotle's lost works.

The only remaining major problem is how Aristotle's psychology was so utterly misunderstood from the very first commentators onwards. We should consider here that the traditional hylomorphic interpretation of *De anima* is not demonstrable before the time of Alexander of Aphrodisias, and that in Alexander's time virtually no one studied Aristotle's biological writings anymore. It seems quite likely that in this period, some centuries after the death of Aristotle, in the interpretation of texts which had not previously been in circulation, in a time when the materialism/hylozoism of the Stoa was a dominant factor, and without the support of Aristotle's dialogues, which by now had been lost or were discredited, an interpretation like that of Alexander could have come about. And when the explanation of *De anima* presented by Alexander of Aphrodisias had become established as the serious, scientific, and orthodox peripatetic psychology of Aristotle, and had achieved the authority of seventeen centuries, then it ensured that W. Jaeger's rediscovery of the serious value of the works published by Aristotle himself during his lifetime foundered on an interpretation of these works as Platonistic juvenilia.

Owing to the curious tricks that history played on Aristotle's oeuvre, his philosophical intentions as regards the conception of the soul were always misunderstood and he influenced the philosophical tradition only in an indirect, almost underground way.

CHAPTER SEVENTEEN

THE INTEGRATION OF THE PSYCHOLOGY OF ARISTOTLE'S *EUEMUS* AND HIS *DE ANIMA*

*A more comprehensive perspective in the Eudemus than in De anima
but not an opposition*

My new interpretation of the psychology supported by Aristotle in *De anima* warrants another look at the relation between *De anima* and the work which also addressed the theme of the soul, the dialogue *Eudemus*, which has regrettably been lost.

If my explanation of *De anima* holds good, it removes the main reason for assuming a fundamental difference of conception for the two works:

- in the *Eudemus* Aristotle did not present the soul as ‘an Idea or something of the nature of an Idea’, as W. Jaeger thought.¹ It is true that Aristotle presented the soul as an immaterial *eidos*, but he did the same in *De anima*.

- he did not develop a Platonistic doctrine of soul in the *Eudemus*. He did attribute to the soul, together with its instrumental body, independence in relation to the visible body. But he did the same in *De anima*.

- he did not assign immortality to the soul in the *Eudemus* as opposed to *De anima*. For both in the *Eudemus* and in *De anima* he described the soul as departing from the visible body at death, but gradually dissolving into the heavenly ethereal sphere after the intellect, which is immortal in the proper sense, has separated from it.

In chapter 13 we moreover assumed, from the reports of Themistius, that in the *Eudemus* Aristotle argued and defended his views scientifically. The suggestions of some late Hellenistic authors that Aristotle's dialogues only brought forward arguments with a certain plausibility, and the highly unlikely view of Alexander of Aphrodisias that Aristotle's dialogues only discussed the opinions of others without highlighting his own views, will have to be put aside. So there

¹ W. Jaeger, *Aristotle* 45-46.

is no remaining reason as regards content for labelling the *Eudemus* a youthful work, or dualistic in a Platonizing fashion, and for contrasting it on these grounds with *De anima*, as a later product from Aristotle's mature period and as anti-Platonistic and traditionally hylo-morphic. Perhaps we should realize, much more than we have done so far, that the material of the Aristotelian Corpus was *not* intended for publication, but *only* for Aristotle's own use. And that only by a curious coincidence and by the active intervention of Andronicus of Rhodes in the first century BC, from material not intended for publication by its author, writings were produced which have since been regarded as 'the work of Aristotle'.

However, as we now possess or are able to reconstruct them, the *Eudemus* and the treatise *De anima* did show clear differences:

- the *Eudemus* was a text prepared and released for publication;
- the *Eudemus* was clearly distinct in its level of language and style from acroamatic works like *De anima*;
- the *Eudemus* certainly incorporated and positively valued mythical elements;
- the *Eudemus* wanted to offer more than a phenomenology of living nature and the functions of living creatures. The work developed a perspective in which all levels of life were related to the one transcendent Origin.

Aristotle himself indicates in *De anima* that it is the *physikos* who talks about the soul in relation to somatic reality,² and he makes it clear that the student of 'first philosophy' is concerned with a different field of inquiry.³ Just as Aristotle, by studying natural reality, wants to advance to the 'first causes' and thus to God as the first Cause *par excellence*, so, in his study of living nature, he apparently held that living nature is not founded on itself but that the soul in its highest form of activity is more divine than ordinary sublunary reality and all forms of life not occurring without a somatic aspect. A truly comprehensive psychology will therefore have to speak of the part of the soul which can exist without body and of the question how this divine, transcendent principle can manifest itself in corporeal and sublunary reality.

² *Anim.* I 1, 403a27-28. Cf. H. Flashar, in *Die Philosophie der Antike* vol. 3 (Basel/Stuttgart 1983) 412.

³ *Anim.* I 1, 403b16. *Part. Anim.* I 1, 641a33-b10 underlines that the problem of the soul's intellectual activity needs to be tackled by a higher science.

It is likely that the dialogue in which Aristotle's friend Eudemus of Cyprus plays the title role did not confine itself to the field of inquiry covered by the *physikos* but also explored the domain of 'first philosophy'.⁴ This may have constituted the decisive difference between these two works 'On the soul'.

Proclus, too, observes that the *Eudemus* offered more than *De anima*. For him there is no question of an irreconcilable difference in conception, just as he sees no difference in Plato between the psychology of the *Timaeus* and that of the *Republic* or the *Phaedo*. In his own commentary on the *Timaeus* he says:⁵

He [Plato in the *Timaeus*] joined the soul directly to the body, omitting all the problems about the soul's descent ..., of which the myth of the *Republic* treated. Nor does he tell of the horrors (which await the soul) after its departure (from the body) ..., taught by the myths of the *Republic*, the *Gorgias*, and the *Phaedo*. What is the reason, people will ask, for omitting these matters? In my view, Plato does this because he does not want to disrupt the plan of the dialogue [the *Timaeus*] and he treats of psychology in these discussions only insofar as it belongs to physics and teaches the interaction between soul and body. Aristotle did exactly the same: in his treatise *On the soul* (*De anima*) he treats of the soul in the manner of the *physikos* and mentions neither the descent of the soul nor what falls to it.⁶ But in his dialogues he dealt separately with these matters and laid down the theoretical foundation.

⁴ This is in fact a clear reason for asking whether the *Eudemus* may also have been designated as (a part of) Aristotle's work *On philosophy*. The crucial distinction between 'the purpose of something' and 'the purpose for something' of which we suggested in chap. 6 above that it was used by Aristotle to indicate the difference between 'the soul' and 'the intellect', and which occurs in *Anim.* II 4, 415b2; b20, but also in *Metaph.* A 7, 1072b2; *Eth. Eud.* VIII 3, 1249b15 and in *Phys.* II 2, 194a35, was also, according to the last passage, dealt with in the discourses 'On (first) philosophy'. Cf. Arist. *Philos.* fr. 28 Ross; 987 Gigon; 24 M. Untersteiner. In *Phys.* II 2, 194b14-15 Aristotle demarcates the knowledge of the *physikos* about the 'purpose' from the knowledge which 'first philosophy' has of the 'purpose'. Simpl. In *De an. Proem.* 4, 19-20 states interestingly in this connection: ὑπὸ γὰρ τῆς ψυχῆς τὸ ζῶον κινεῖται ὡς ὑπὸ κυβερνήτου τὸ πλοῖον· ἐντελέχεια δὲ καὶ ὁ πλωτὴρ λέγεται.

⁵ Procl. In *Tim.* III 323, 16 - 324, 4 (ed. E. Diehl, ad 43a) = Arist. *Eudem.* fr. 4 Ross; 66 Gigon.

⁶ T. Case, 'Aristotle' 504A relates this to 'the casting of lots', presumably on the pattern of Pl. *Resp.* X; A.J. Festugière, *ad loc.* translates 'destinées posthumes'. But Aristotle may have been talking about the 'bodily coverings' which the rational soul receives in its 'descent' into somatic reality, thus explaining the difference in quality of soul and life between the divine celestial beings, the fiery beings on the Moon, the pneumatic beings in the sublunary sphere, and living creatures with only an innate vital heat. Difference in quality of life always corresponds in Aristotle to a difference in purity of *pneuma* or a difference in degree of vital heat.

Considering now that Aristotle always adhered to a didactic order in which the study of nature precedes and forms the necessary propaedeutics for 'first philosophy', we must surmise that the psychology of the *Eudemos* with its comprehensive perspective formed the culmination of psychology as dealt with in *De anima* in the same way that the theology of the transcendent Unmoved Mover formed the culmination of the (cosmic) theology of the visible celestial gods. Just as the right way to study theology is to proceed via immanent theology to the theology of the Transcendent, so for psychology Aristotle will have supported the route via 'natural' psychology to the psychology of the transcendent Intellect.

Aristotle reduced the entire reality of living nature to the operation of incorporeal soul-principles in their inextricable connection with their instrumental bodies. But he ultimately reduced the reality of these souls as *eidè* and *morphai* to the one origin, the transcendent Intellect.

If then Aristotle himself referred to works like the *Eudemos* or *De philosophia* as 'exoteric', he cannot possibly have meant that they were intended 'for outsiders and for people without further philosophical propaedeutics'. The 'exo' in 'exoteric' must denote the 'extra-' or 'supra'-natural level discussed in these writings.⁷

The early loss of these published works may have been partly due to the candour with which they revealed Aristotle's close relations with the Macedonian royal house. It remains astonishing that they do not appear to have formed part of the library⁸ which Theophrastus bequeathed to Neleus.

The main problem of assessing Aristotle's lost works in the late Hellenistic tradition was probably the belief of Neoplatonistic commentators that Aristotle considered the knowledge which he characterized as 'logical and dialectical' to be less scientific than the knowledge generated by 'natural science'. This is clearly stated by, for instance, Simplicius.⁹ Simplicius found a solid basis for this position

⁷ Cf. A.P. Bos, *Cosmic and meta-cosmic theology in Aristotle's lost dialogues* 150-152. But see E. Berti, *La filosofia del <<primo>> Aristotele* (Milano 1997) 17, who prefers to interpret the term 'exōterikoi logoi' in the sense of 'discussions pertaining to a different sphere of reality' (i.e. from what Aristotle is discussing at that moment).

⁸ See on this especially J. Barnes, 'Roman Aristotle', J. Barnes; M. Griffin (eds), *Philosophia togata* vol. II (Oxford 1997) 1-69.

⁹ Simplicius, *In De an.* 21, 19: τὴν γὰρ ἐπιπολαιωτέραν καὶ οὐ πραγματειώδη γνῶσιν λογικὴν καὶ διαλεκτικὴν εἶωθεν προσαγορεύειν ὡς δοξαστικὴν καὶ οὐκ ἐπιστημονικὴν.

in all the passages where Aristotle criticises Plato's use of the theory of Ideas as an inadequate explanation of real, natural phenomena. Since the Neoplatonistic commentators held that Aristotle's dialogues, too, were 'dialectical', they concluded that these dialogues were scientific on a lower level. But in doing so they failed to see that Aristotle recognized a science which is higher and more scientific than natural science. As this higher science dealt with the foundations of natural science, its practitioner could no longer produce arguments drawn from nature. Hence Aristotle talks about a 'another and a higher science'.¹⁰ This science is 'dialectical' on a higher level because it does not argue *from* generally accepted principles but conducts a discussion *on* principles.

We will have to assume that the debate with Plato over the origin of the cosmos and the role of the intellect in dialogues like *On philosophy* and the *Eudemus* was conducted on this higher, metaphysical level.

We thus conclude that the *Eudemus* and *De anima* were substantially in agreement. And that in the *Eudemus*, too, Aristotle presented the soul as the incorporeal *eidos* of an instrumental natural body. The texts about the Etruscan robbers¹¹ seem the clearest confirmation of this. Probably the only difference between the *Eudemus* and *De anima* was in the comprehensiveness of their perspective.

The question why Aristotle, in his critical discussion of all the psychologies which he rejects in *De anima* I, fails to mention the view which he himself put forward in the *Eudemus* can therefore be dismissed as spurious because it is the same view which Aristotle develops in the thetic discourse of *De anima* II and III.

However, the conclusion that Aristotle's *Eudemus* and *De anima* were in substantial agreement could only be reached on the assumption that the traditional explanation of the psychology in *De anima* was unhistorical and mistaken. I want to recapitulate here the reasons we found for concluding that the hylomorphistic psychology in the traditional explanation of Alexander of Aphrodisias was wrongly attributed to Aristotle. I will then sum up the advantages of my alternative.

¹⁰ E.g. *Cael.* III 1, 298b20.

¹¹ See chap. 16 above.

*Recapitulation of the arguments against the traditional interpretation of
Aristotle's psychology*

Anyone who has followed and reflected on the modern debate over Aristotle's psychology must conclude that it depicts Aristotle not as the astute systematic philosopher who emerges from so many parts of his work but as someone who either failed to notice the great internal contradictions in his work or, if he did, failed to remove them. Also at least two radical changes of position are attributed to him, though his writings do not show why he no longer found his earlier views adequate and considered his new views more satisfactory. So something must have gone wrong in our assessment of Aristotle's philosophy. In my view, a number of facts clearly indicate where the error lies and the direction in which a solution should be sought. I mention ten.¹²

1. The work *De anima* has always been seen as Aristotle's most thorough attempt to deal with the problem of the soul as the principle of all that lives. The exposition of his own view of the soul in book II 1 has always been interpreted as the definitive and scientific version of his psychology,¹³ which, according to authors like I. Block and M.C. Nussbaum, was later at most 'extended' to include a doctrine of *pneuma*, though one not at variance with the conception of *De anima*. All modern interpreters have taken the position of *De anima* II 1 to be *hylomorphic*. But in this standard interpretation hylomorphism entails that the soul is the form or entelechy of the visible, material body.

The first remarkable point is that *nowhere in the Aristotelian Corpus* can a hylomorphic conception in this form be demonstrated incontrovertibly or unambiguously.

2. In the second place we have to conclude that the literature from the first four centuries after Aristotle's death does not show incontrovertibly and unambiguously that any author was familiar with such a hylomorphic psychology and defended it himself or attributed it to Aristotle.¹⁴

¹² Cf. A.P. Bos, 'Aristotle's psychology: diagnosis of the need for a fundamental reinterpretation' (1999) 309-331.

¹³ Cf. M. Furth, *Substance, form and psyche* 147: 'The pivotal section of the work is Chapter 1 of Book ii'.

¹⁴ W.D. Ross, *Aristotle, De anima* (Oxford 1961) 2 notes: 'The oldest references we have to any part of *De anima* are the references to it by Alexander of Aphro-

Though the tradition of Hellenistic philosophy is extremely defective, this fact is remarkable. For certainly Aristotle's philosophy was not directly forgotten, nor did the literature stop mentioning him as soon as he died, as we were able to establish in chapters 12 and 14. Yet neither the Peripatetics nor members of other philosophical schools show any trace of this standard interpretation up to the end of the second century AD. And even in the period after Andronicus of Rhodes had put the Aristotelian Corpus into circulation, we know that authors like Boethus of Sidon the Peripatetic, Plutarch of Chaeronea, Diogenes Laertius, and Hippolytus of Rome were familiar with Aristotle's definition of the soul as formulated in *De anima*, but not with the present-day standard interpretation.

3. On the other hand, there are quite a few doxographical reports which ascribe a different kind of psychology to Aristotle. The reports say that Aristotle held the soul to consist of a special body, the *quinta essentia*, or to be linked to a substance with special properties.

W. Jaeger had a reasonable explanation: all these texts are due to the continuing influence of Aristotle's lost works. But surely it is strange that none of these doxographical reports ever mentioned a discrepancy between Aristotle's reported opinion and a different view which was to be regarded as equally Aristotelian. And this is all the more strange in combination with the fact observed under (2).

4. However, Aristotle's oeuvre certainly offers clues as to where the error in the tradition should be sought. Precisely chapter II 1 of *De anima*, the crown witness for the standard interpretation of Aristotle's psychology, ends with a passage which no modern exegete has been able to explain satisfactorily in agreement with what goes before. In the passage concerned¹⁵ Aristotle notes that it is not yet clear so far whether the soul 'is the entelechy of the body in the same way as a sailor is of a ship'. All exegetes vigorously deny that Aristotle could have seriously considered this possibility, and are adamant that he would have rejected it out of hand had he returned to the subject.¹⁶

disias'. This claim should be qualified: in the report of Hipp. *Haer.* VII 20ff. Basilides clearly knew the definition of the soul in *De anima*, as did Plutarch, witness his *Plat. quaest.* 8.

¹⁵ *Anim.* II 1, 413a8-9: ἔτι δὲ ἄδηλον εἰ οὕτως ἐντελέχεια τοῦ σώματος ἢ ψυχὴ ὥσπερ πλωτὴρ πλοίου. Cf. T. Tracy, 'The soul/boatman analogy in Aristotle's *De anima*', *Class. Philol.* 77 (1982) 97-112. See chap. 6 above.

¹⁶ Cf. R.D. Hicks (1907) 319-321; F. Nuyens (1939) 252; French ed. (1948) 272;

But it remains unclear why Aristotle would have wanted to consider such a crass question.

5. The traditional explanation itself, too, has some almost insurmountable problems.¹⁷ According to those who attribute to Aristotle a hylomorphistic psychology in the traditional sense, the definition of the soul in *De anima* II 4, 412b5 means that the soul 'is the first entelechy of a natural organic body' or 'of a natural body equipped with organs'. But this implies that the essence of the soul is determined with reference to a condition of the living creature of which the soul is the vitalizing principle, which condition is not yet realized for a long period in the living individual's embryonic and post-natal development. For the soul is the principle which ensouls a new specimen of a species of living creatures from the moment of fertilization. But this moment comes long before an 'organic body' or a 'body equipped with organs' can be said to exist. A typical example of the problematic way that modern interpreters argue this point can be taken from A.E. Taylor:

"The soul is the first entelechy (or actual realisation) of a natural organic body". What this means is that the soul stands to the living body as all form realised in matter does to the matter of which it is the form, or that the soul is the "form" of the body. What the "organic body" is to the embryo out of which it has grown, that soul is to the body itself. As the embryo grows into the actual living body, so the living body grows into a body exhibiting the actual directing presence of mind'.¹⁸

Taylor, then, admits that the embryo contains a soul-principle. At the same time he implies that the embryo is not the 'organic body' that must develop from it. Yet he believes that the definition of the soul mentions the 'organic body' and does not think it necessary to point

W.D. Ross (1961) 214-215; D.W. Hamlyn (Oxford 1968) 87; C. Lefèvre (1972) 137-140; H. Robinson, *Oxf. St. in Anc. Phil.* 1 (1983) 128-131; H.J. Blumenthal (1996) 96-97.

¹⁷ I leave aside some smaller matters, such as the fact that Aristotle's doctrine of 'spontaneous generation' seems a curious anomaly and makeshift hypothesis in the context of a hylomorphistic psychology in the traditional explanation. For the beginning of 'spontaneous generation' requires the presence of 'soul', but the soul cannot be connected with the body which it yet has to produce. According to the theory of *Gener. anima*. III 11, 762a18-21, it is only connected with *pneuma* and water and earth. The traditional explanation of Aristotle's psychology also finds it hard to explain his view that flies and fleas develop out of larvae (which are ἐτερογενῆ according to *Gener. anim.* I 16; I 18, 723b3-9).

¹⁸ A.E. Taylor, *Aristotle* (1919; repr. New York 1955) 75.

out that Aristotle, on Taylor's argument, should have talked about a 'potentially organic body'.

6. An equally serious internal contradiction in the traditional interpretation is that it has no way of explaining that the soul is the principle of movement for the visible body. For in book I 3 of *De anima* Aristotle had fundamentally objected to Plato's theory of the soul as self-mover. Aristotle had stressed that movement is a property of natural bodies.¹⁹ So when (like Plato) he presents the soul as incorporeal, he must assume that the soul is an unmoved principle of movement for the visible body. But in that case he should have made it clear how this is to be understood.

7. Remarkably, the traditional explanation of Aristotle's psychology leads necessarily to the conclusion that Aristotle distinguished between female souls and male souls. Yet no one ever observed such a view in Aristotle or attributed it to him. However, if the soul is the formal principle of the 'organic body' or 'the body equipped with organs', and all higher species of animals possess male or female genitalia on account of their sexual differentiation,²⁰ the soul of a body with female genitalia must differ from a body with male genitalia.

8. Quite obviously the standard interpretation of Aristotle's psychology also implies the dissolution of the soul on the death of the earthly living creature. W.K.C. Guthrie put it succinctly: 'This doctrine of form as entelechy of the body, if rightly maintained, is obviously a death-blow to immortality. Soul is indissolubly united with the body'.²¹ But authors who take this view should at the very least have

¹⁹ Cf. *Cael.* I 9, 279a15. Only divisible and continuous things are capable of movement; cf. *Phys.* VIII 5, 257a33. See also *Philos.* fr. 26 Ross; 25, 1 Gigon: quo porro modo mundus moveri carens corpore.

²⁰ Cf. *Gener. anim.* I 4, 717a12: τῶν σπερματικῶν ὀργάνων, 5, 717b14: τὸ ὄργανον τὸ πρὸς τὸν συνδυασμὸν and 16, 721a26: τὰ .. περὶ τὴν γένεσιν ὄργανα.

²¹ W.K.C. Guthrie, *A history of Greek philosophy*, vol. VI (Cambridge 1981) 284. Cf. id., *The Greeks and their gods* (London 1950; repr. 1977) 369: 'On a strict interpretation of his psychology, any survival of the soul after the dissolution of the body would appear to be impossible. Man like other natural objects is a unity, and his components of form and matter are not separable save in thought', and 370: 'The description of the thinking part of us in *De anima* III 4 and 5, makes it clear that there can be no survival of individual personality, and no room therefore for an Orphic or Platonic eschatology. ... The doctrine of form and matter has the last word' and id., *The Greek philosophers from Thales to Aristotle* (London 1950; repr.

pointed out that Aristotle himself *never* draws this conclusion.²² And that no author from Antiquity ever attributed this view to Aristotle, unless as a logical conclusion which he *should have drawn* from his hylomorphism (in the traditional sense).²³ On the other hand, there are many doxographical reports which attribute to Aristotle a doctrine of the soul's survival.²⁴

9. A highly curious aspect of the attribution to Aristotle of a hylomorphistic psychology (in the traditional sense) is the fact that he blames his teacher Plato for distinguishing only two principles, those of form of matter, and for thus neglecting the necessary third principle, the 'efficient cause'.²⁵

10. But the most serious objection to the psychology ascribed to Aristotle is that, in the definition of the soul, i.e. in the crucial summary of Aristotle's psychology, it translates a central term in a way for which there is *no parallel in Aristotle's entire oeuvre*. In the definition of the soul in *De anima* II 1, 412b5 the traditional explanation inter-

1967) 145. P. Merlan, *C.H.L.G.E.M.Ph.* edited by A.H. Armstrong (Cambridge 1967) 39: 'Though probably not from the beginning, Aristotle denied the substantial character of the soul and, therefore, any pre- or post-existence of it, any kind of incarnation or reincarnation (transmigration). He also objected to any kind of astral psychology'. Cf. also P. Thillet, 'Matérialisme et théorie de l'âme et de l'intellect chez Alexandre d'Aphrodise', *Rev. philos. de la France* 106 (1981) 17: 'À la différence de Platon, et, vraisemblablement, en retrait par rapport aux thèses exposées dans l'*Eudème* et autres oeuvres perdues, Aristote paraît lier le sort de l'âme, forme du corps, à l'existence même du corps. Seule une partie, une fonction de cette âme, l'intellect, pourrait bénéficier de l'immortalité'.

²² *Anim.* I 3, 406b3-6 does warrant the conclusion that Aristotle ruled out the resurrection of living creatures that have died. But this does not exclude a post-existence of the soul. In connection with Guthrie's issue we do need to mention *Metaph.* A 3, 1070a24-26: εἰ δὲ καὶ ὕστερόν τι ὑπομένει, σκεπτέον· ἐπ' ἐνίων γὰρ οὐδὲν κωλύει, οἷον εἰ ἡ ψυχὴ τοιοῦτον, μὴ πᾶσα ἀλλ' ὁ νοῦς. This passage is bracketed off by W. Jaeger (O.C.T.) as a later addition.

²³ Cf. Alex. Aphrod. *Anim.* 21, 22-24. Philop. *In De an.* 10, 1-3; 21, 20-23; 24, 7-20 has serious objections to this view as an explanation of Aristotle's psychology. The claim of Tatian *Or.* 25 that Aristotle 'defames the immortality of the soul' (τῆς ψυχῆς διαβάλλει τὴν ἀθανασίαν) should, as I argued in chap. 14, be taken in the sense that Aristotle did not declare the soul's immortality in an absolute sense, but assumed that in the course of time it dissolves into the sphere of the fifth element.

²⁴ Indeed, we could say that the doctrine of an inextricable connection of the (incorporeal) soul with a (special soul-) body, which I developed as an alternative to the traditional hylomorphism, is a precondition for Aristotle to argue a survival of the soul and an ascent of the soul to the heavenly region whence it came, because only a body can possess movement.

²⁵ Cf. *Metaph.* A 6, 988a9; 9, 991a11; a22; b3-5; *Gener. corr.* II 9, 335a30; b8 and chap. 4 above.

prets '*organikon sôma*' as 'organic body' or as 'body equipped with organs'. But Aristotle never uses the word '*organikon*' in the sense of 'organic' or 'equipped with organs' but always in the sense of 'instrumental', 'serving as an instrument'. This is also clearly the case in the two other passages in *De anima* where the term '*organikon*' is used to denote a part of the body which is an instrument of movement.²⁶

All these arguments show that the error in the modern explanation of Aristotle's psychology lies in its attribution to the philosopher of a conception in which the soul is seen as the entelechy of the visible body.

The advantages of an alternative interpretation of Aristotle's psychology

I will now list the advantages of my alternative interpretation.

1. In this interpretation the soul as *entelecheia* is indissolubly linked to the fine-corporeal body, but Aristotle may also have talked about a separation of the complex of 'the soul as *entelecheia* plus soul-body' from the visible body of man, animal, or plant. It leaves room for an independent existence of the soul complex after the visible, material body has dissolved, and for talk about 'liberation' of the soul and its 'return' to the celestial regions whence it originates. The information about Aristotle's dialogues forces us to allow for this possibility, in any case as regards the soul of man.

2. In this interpretation a difference in quality of souls corresponds to a difference in quality of the fine-corporeal, instrumental body, e.g. a difference in quality between the souls of the stars and planets, of human beings, of animals, and of plants.²⁷

3. This interpretation shows that Aristotle assumed a much closer analogy than has been recognized so far between the work of nature and the work which human culture produces in various forms of *technè*, because he made a clear distinction in living nature, too, between a formal principle and an efficient cause.

4. This interpretation overcomes the problem existing in the traditional explanation of Aristotle's psychology, namely that *De anima* I

²⁶ *Anim.* III 9, 432b18; b25.

²⁷ As is strongly suggested by *Gener. anim.* II 3, 736b29: Πάσης μὲν οὖν ψυχῆς δύναμις ἑτέρου σώματος ἔοικε κεκοινωνηκέναι καὶ θειοτέρου τῶν καλουμένων στοιχείων. ὥς δὲ διαφέρουσι τιμιότητι αἱ ψυχαὶ καὶ ἀτιμίᾳ ἀλλήλων οὕτω καὶ ἡ τοιαύτη διαφέρει φύσις.

3, 407b13-26 accuses the Platonists and Pythagoreans of failing to speak about the body which the soul enters, though Aristotle himself seems to have neglected this too.

5. In this explanation Aristotle's psychology of *De anima* can be seen to flow from his reflection on the issues raised by Plato in the *Phaedo* and *Phaedrus*, on the basis of his sharp(er) distinction between intellect (*nous*) and soul (*psyche*).²⁸ Because the theoretical intellect is no longer interpreted along Platonic lines as the (highest) part of the soul but as being different from the soul, and because the intellect is exclusively interpreted as immortal in contrast to the visible body in its mortality, Aristotle has the problem that the soul, in its connection with an instrumental *sōma*, must be given an intermediate position between immortal and mortal.

6. This interpretation allows us to see that Aristotle's biological writings and the *Parva naturalia* are entirely in line with *De anima*. The absence of any explicit reference to the notion of *pneuma* or vital heat in *De anima* does not mean that the concept is no longer or not yet present in *De anima*. It is intended in the more general designation '*sōma physikon organikon*', which Aristotle needs in order to denote the instrumental body of the souls of plants and lower animals (and of the celestial beings) too.

7. This interpretation allows us to see that the psychology which Aristotle uses in his ethics is compatible with that of *De anima*. Usually the psychology of the ethics was considered incompatible with the hylomorphism of *De anima* and was therefore thought to represent an earlier position.²⁹

8. This interpretation allows us to understand why Aristotle never concludes in *De anima* that the death of the body means that the soul, too, ceases to exist,³⁰ a conclusion which seems necessarily to follow from the traditional view of Aristotle's psychology. It also explains

²⁸ Despite his hostility towards Aristotle, Atticus put this well (Eus. *P.E.* XV 9, 14 = fr. 7): Πάντως δὲ καὶ ἐν τούτοις διαφέρεται Πλάτωνι· ὁ μὲν γὰρ φησι νοῦν ἄνευ ψυχῆς ἀδύνατον εἶναι συνίστασθαι, ὁ δὲ χωρίζει τῆς ψυχῆς τὸν νοῦν.

²⁹ Cf. *Aristote, L'Éthique à Nicomaque*, introd., trad. et comm. par R.A. Gauthier; J.-Y. Jolif, III vols (Paris/Louvain 1958-9; IV vols, 1970) 10-62, esp. 53 and 60. For a comparable distinction between Aristotle's 'political and ethical psychology' and his 'biological psychology' in *De anima*, see W.W. Fortenbaugh, *Aristotle on emotions* (London 1975) 23-30.

³⁰ Alex. Aphrod. *Anim.* 21, 22 (ed. I. Bruns) does draw this conclusion. The claim by R.A. Gauthier, J.-Y. Jolif, *op. cit.* 2nd ed. vol. I, 48 that *Nic. Eth.* I 11, 1100a12-14 and III 9, 1115a26-27 explicitly deny the immortality of the soul is unconvincing in the light of *Nic. Eth.* X 8.

why nobody in Antiquity before Alexander of Aphrodisias attributed to Aristotle the view that death is final as regards the soul, and the fact that Hippolytus held Aristotle to be someone who regarded the soul as existing longer than the material body, but not as truly immortal: in the course of time it disappears by dissolving into the fifth element.³¹

9. This explanation brings to light a parallelism between

(a) the way in which, according to Aristotle, the soul, as incorporeal teleological principle, governs and leads all processes occurring in the bodies of plants, animals, and human beings from a central, isolated position, by means of a fine-corporeal body as the *organon* on which it acts.

(b) the way in which God himself, in splendid isolation, without being directly involved and present everywhere, by acting on the sphere of the fifth element, uses the fifth element as an *organon* for bringing about the generation and death of all living creatures in the sublunary sphere.³²

10. This interpretation brings to light that the passage in the controversial work *De mundo* 4, 394b9-12, where *pneuma* is described as the 'ensouled and life-generating substance which permeates (the bodies of) plants and living creatures',³³ is wholly transparent and soundly Aristotelian.

11. This hypothesis allows us to recognize that Aristotle always distinguished two levels of divine reality, in an attempt to avoid the internal dialectics of Plato's theology, namely a highest divine level of a purely transcendent Intellect as final cause and *entelecheia* of the cosmos; and a level of divinity immanent in the cosmos, to wit the sphere of the eternal, imperishable, fifth element as efficient cause and *endelecheia*, which concretely realizes the divine plan,³⁴ parallel to the distinction between the incorporeal soul as *entelecheia* and final cause, and the fine-corporeal *pneuma* as dynamic and efficient principle, which gives concrete shape to the formal principle in the course

³¹ Hipp. *Haer.* I 20, 3. See also Hermias, *Irr.* 3; Philop. *In De an.* 12, 20 and chap. 14 above.

³² Cf. A.L. Peck, Aristotle, *Generation of animals* 589 and chap. 3 above. The argument of S. Broadie, 'Que fait le premier Moteur d'Aristote?', *R. Ph. de la Fr.* 118 (1993) 392-393 that Aristotle in *Metaph.* A did not call the First Mover the 'soul' of the outer celestial sphere (though this is what he meant according to the author) is not convincing.

³³ Cf. G. Reale, A.P. Bos, *Il trattato Sul cosmo per Alessandro attribuito ad Aristotele* (Milano 1995) 285-288.

³⁴ On the term '*endelecheia*' as distinct from '*entelecheia*', cf. chap. 14 above.

of time. The hypothesis of J. Pépin and many others, that Aristotle initially supported a purely cosmic theology,³⁵ thus proves totally groundless.

12. This new hypothesis makes it much more understandable that Antiquity, starting with Antiochus of Ascalon, had such a strong tradition in which the fundamental agreement between Plato and Aristotle was defended and the perceived differences between them were presented as being of secondary importance or due to the use of a different terminology. Such attempts would have been much less likely if Aristotle, in a later phase of his career, had completely abandoned a doctrine of the soul's ascent to the Transcendent.

13. Following on from the previous point, we can also note that the new hypothesis explains how the principle of final cause (the *entelecheia*) acts directly only on the 'instrumental body' and only indirectly on the visible body composed of the four earthly elements. This allows us to see why Antiquity always rightly attributed to Aristotle a doctrine of 'limited divine Providence', in the sense that divine Providence extends only through the sphere of the fifth element to the Moon, but has no direct control over processes in the sublunary sphere. This attribution to Aristotle by the entire doxographical tradition is not due to a misunderstanding or the effect of *De mundo* as a pseudo-Aristotelian work, as A.J. Festugière and P. Moraux have categorically argued,³⁶ but is a correct representation of Aristotle's authentic position.

14. In this interpretation there is no gap between the writings published by Aristotle himself and the surviving works of the Aristotelian Corpus, which seem to reflect his teaching activities.³⁷ The entire hypothesis of a development in Aristotle's philosophizing was ultimately predicated by W. Jaeger and F. Nuyens on the assumption of an irreconcilable opposition between the psychology of *De anima* and that of the *Eudemus*.

On Jaeger's hypothesis we would be forced to assume that during his life Aristotle only released writings for publication in his early and

³⁵ Cf. J. Pépin, *Théologie cosmique* 171: 'une conclusion hors conteste: le dialogue *De philosophia* professait une théologie cosmique assez élaborée'.

³⁶ Cf. A.P. Bos, 'Clement of Alexandria on Aristotle's (cosmo-)theology; (Clem. *Protr.* 5. 66. 4)', *Class. Quart.* 43 (1993) 177-188 and chap. 14 above.

³⁷ The assertion of J. Mansfeld, 'Sources', *The Cambridge History of Hellenistic Philosophy*, ed. by K.A. Algra *et al.* (Cambridge 1999) 3: 'Much of Aristotle's vast output has perished, but the philosophically more important part of his writings is still available' leans too heavily on a Jaegerian distinction.

transitional phases. After he had radically changed position and abandoned his earlier views, he no longer attempted to communicate this position to his contemporaries in written form. This later view was put forward only during lectures in the Peripatos and made public, if at all, via pupils of Aristotle. No one has ever suggested a good reason for such a radical change in Aristotle's public relations strategy.

15. We can also establish that the introduction of the theory of a divine, fifth element was not just prompted by cosmological reasons, let alone by the far-fetched motives which W. Jaeger proposed.³⁸ Aristotle's introduction of the fifth element was motivated in equal measure by cosmological and psychological factors. To Aristotle's mind, only a divine body was suited to carry the potential of the psychic functions, including that of intellect-in-potency.

16. It is now much clearer how the notion that Aristotle was taken with a form of materialist psychology could gain such wide currency.³⁹ Though he was essentially a non-materialist, his proposition that the soul cannot exist 'without instrumental body' could easily lead to the idea that he explained all psychic functions by means of a special body, either a *quinta essentia* or *pneuma*. What is special about Aristotle's position is that he always interpreted the soul as an '*eidos* in matter', as a metaphysical principle active as a *dynamis* in the world of natural bodies.⁴⁰ Aristotle remained a dualist throughout; not a Cartesian dualist, but a very special kind of dualist.

17. It is better not to call this Aristotelian conception 'instrumentalist', because this term should be reserved for the conception in which the visible body is taken to be the instrument of the soul. Such a view can be distinguished from the Aristotelian view by referring to the latter as 'cybernetic instrumentalism'.

But the hypothesis is not just useful for understanding Aristotle's own philosophy. It also has interesting consequences for the history of philosophy after Aristotle.

18. This interpretation would give the doctrine of the 'soul-vehicle' (the *ochêma-pneuma* theory) of the Neoplatonists, who traced

³⁸ W. Jaeger, *Aristotle* 154: 'What first gave rise to it was obviously the new and precise calculations, ..., about the size and distance of sun, moon and the other heavenly bodies'.

³⁹ For this tradition, see chap. 1 with n. 16.

⁴⁰ C. Shields (1988) 113-129 shows clearly why Aristotle cannot possibly be termed a materialist.

it back to Plato and Aristotle, a much more direct relation with Aristotle than modern authors like E.R. Dodds, J.F. Finamore and J. Halfwassen have recognized.⁴¹

19. This hypothesis can shed more light on the psychology of some treatises in the Hermetic Corpus involving a doctrine of *pneuma* in the context of a dualistic anthropology. After the death of the living creature, the *pneuma* withdraws and undergoes a transformation into fire and ether during a process of ascent through the celestial spheres,⁴² so that the *nous*, which was clothed in soul and in the *pneuma* of the soul during man's earthly existence, ultimately survives 'uncovered'.

20. A better insight into Aristotle's psychology can also make it plain how Philo, influenced by this Greek philosophical view, drastically adapted the biblical doctrine of the Spirit of God and the spirit of man by locating a divine component in every human being.

21. With this improved perception of the way that Philo connects biblical motives with Greek philosophical notions, we can also deepen our understanding of the Gnostic doctrine of *pneuma*⁴³ in the conflict of the Gnostic tradition with the Christian church. The starting-point of all Gnostic systems seems to have been the introduction of a new theology after the model of Aristotle's transcendent, metacosmic Intellect as Unmoved Mover. Many authors in the first centuries AD were in thrall to Aristotle in their thought on the liberation from materiality and emotions, which would lead to the restoration of man's real essence.

⁴¹ Cf. E.R. Dodds, *Proclus. The Elements of Theology*; a revised text with translation, introd. and comm. (Oxford 1933; ²1963) 313-321. Dodds does think that certain facets of the later *ochêma-pneuma* theory derive from Aristotle, but regards his *pneuma* theory as very far from the Neoplatonist *ochêma* theory. Cf. R.C. Kissing, *Am. J. of Philol.* 43 (1922) 318-330 and J.F. Finamore, *Iamblichus and the theory of the vehicle of the soul* (Chico, Ca. 1985). H.J. Blumenthal, 'Soul-vehicles in Simplicius', in S. Gersh, C. Kannengiesser (eds), *Platonism in late Antiquity* (Notre Dame 1992) 173-189; J. Halfwassen, 'Seelenwagen', *Hist. Wörterb. der Philos.* vol. 9 (Darmstadt 1995) 111-117.

⁴² See e.g. *Corp. Herm.* X 12-18, analyzed in chap. 16 above.

⁴³ Cf. G.P. Luttikhuisen, 'Gnostic hermeneutics', R. Kessler; P. Vandermeersch (eds), *God, biblical stories and psychoanalytic understanding* (Frankfurt a.M. 2001) 171-185; id. 'Traces of Aristotelian thought in the *Apocryphon of John*', H.-G. Bethge (ed.), *For the children, perfect instruction*. Studies in honor of H.-M. Schenke (Leiden 2002) 181-202.

CHAPTER EIGHTEEN

FINAL CONSIDERATIONS AND CONCLUSIONS

If the preceding discussions are convincing, we can draw some remarkable conclusions.

Self-immunization of a wrong hypothesis

In the first place we can conclude how extraordinarily successful a wrong hypothesis can be in blocking its own falsification. It is easy to understand that after the discovery of *De anima* in Aristotle's written legacy in the first century BC and after its publication by Andronicus of Rhodes, people who first saw the work proposed an incorrect interpretation. However, that a closer study of the work and a comparison with the content of Aristotle's biological writings did not lead to a refutation of this interpretation can only be explained by the fact that the philosophical discussion had undergone a major development away from Aristotle's position, and by the fact that interest in studying the biology had become very rare.¹ In this way even an independent and critical mind like Philoponus was unable to reach the historically correct interpretation of Aristotle's conception, and instead argued an unhistorical, in this case Neoplatonistic, interpretation of *De anima*.

An interesting incidental circumstance is that, for their interpretation of Aristotle's psychology, modern exegetes have eagerly appealed to the authority of Alexander of Aphrodisias, whom they virtually granted the status of 'infallible' by identifying him, unlike the later commentators, as a Peripatetic and 'orthodox Aristotelian'.² In passing they have thus added an extra semblance of credibility to their

¹ Cf. J.G. Lennox, 'The disappearance of Aristotle's biology: a hellenistic mystery', *Apeiron* 27 (1994) no. 4, 7-24

² Cf. P. Moraux, *D'Aristote à Bessarion* 17; R.W. Sharples, *Alexander of Aphrodisias, On Fate* (London 1983) 15; 21-23; id. 'Alexander of Aphrodisias: scholasticism and innovation', *A.N.R.W.* vol. II 36, 2 (Berlin 1987) 21; H.J. Blumenthal, *Aristotle and neoplatonism in late antiquity* (London 1996) 7; D. Frede, *Encyclopedia of classical philosophy* (Westport 1997) 21.

own (wrong) explanation. The procedure resembles the way in which the early Church Fathers justified their borrowing of ideas from the heathen Greek tradition by means of the biblical story about the 'spoiling of the Egyptians', which they had first spiritualized via the Greek method of philosophical allegorical exegesis!³

A very special case is W. Jaeger's modern hypothesis of an early, dualistic psychology in Aristotle's lost works and a radically opposite theory in *De anima*. This hypothesis provided its own immunization against any attempt to furnish material to falsify the hypothesis. For if later authors in Antiquity attributed views to Aristotle which seemed at odds with the position of *De anima* as it was traditionally interpreted, such information could be easily dismissed as being due to the continued influence of Aristotle's lost works, and was thus rendered harmless as information arguing against the traditional explanation of *De anima*.

However, this should have aroused suspicion more often (a) given the fact that it was curious that persons or movements were strongly influenced by the philosophical position of a thinker who later recognized the weakness and untenability of this position, and (b) because many doxographical reports attribute to Aristotle a different psychology from the one traditionally read in *De anima* and because nobody before Alexander of Aphrodisias demonstrably ascribed to Aristotle a hylomorphistic psychology in the traditional sense.

The development hypothesis sometimes covers up unsolved problems

We can also conclude that W. Jaeger's important decision to approach Aristotle's philosophy no longer from a unified point of view, as had been done in all the centuries before him, but on the basis of a historical development, lacked a sound foundation. The fact, too, that Aristotle himself could be called the 'discoverer' of organic (genetic) development, to which Jaeger rightly pointed,⁴ is insufficient reason for assuming that clearly marked phases are distinguishable in his philosophy. With hindsight we must conclude that the inability of modern scholars to reconcile certain pieces of information about Aristotle's psychology in the *Eudemus* and in *De anima* was the only

³ Cf. A.P. Bos, *Geboeid door Plato. Het christelijk geloof bekneeld door het glinsterend pantser van de Griekse filosofie* (Kampen 1996) 58-76.

⁴ W. Jaeger, *Aristotle* 3-7. See chap. 2 above.

reason for talking about phases in Aristotle's development. But in this way a scientific hypothesis which was meant to solve a problem led to the problem being covered up, and to a failure to recognize some other problems in Aristotle's oeuvre.⁵

It also leaves the serious problem why the Aristotelian Corpus, on which Aristotle probably worked in different periods of his career and until his death, would contain recognizable traces of different positions. If a philosopher can, at a certain point, develop an internally coherent and consistent view, he should also be considered capable of removing all traces of earlier views in older material.⁶

Belief in authority in science

In the third place the conclusion urges itself that belief in authorities is a dominant factor in all scientific debate.⁷ This applies not just to the authority of Alexander of Aphrodisias as a commentator on Aristotle's work. It also holds good for the authority of modern scholars like W. Jaeger, A.J. Festugière, J. Pépin, and P. Moraux. Jaeger's hypothesis of a historical development, which followed from his acceptance of the hylomorphistic explanation of *De anima*, meant that the fragmentary material which he revalued could not bring about the breakthrough of established views which it could otherwise have made possible. And in retrospect large parts of the work of A.J. Festugière and P. Moraux prove no more than argumentations for beliefs formed and formulated earlier, argumentations which often drastically adapted later research material to these prejudices.

We can add the example pointed out in chapter 12. On the authority of W. Jaeger and next of W.D. Ross and I. Düring, a large

⁵ Cf. C.H. Kahn, *A.G.Ph.* 48 (1966) 51. Cf. also W. Wians (ed.), *Aristotle's philosophical development. Problems and prospects* (Lanham/London 1996). For the sake of intellectual honesty I should record here that I myself, though the author of this criticism of the development hypothesis, have undergone a radical development: in earlier publications I accepted the development hypothesis as wholly evident; cf. A.P. Bos, *On the Elements. Aristotle's early cosmology* (Assen 1973) and *Providentia divina. The theme of divine Pronoia in Plato and Aristotle* (Assen 1976).

⁶ A. Preus, *Science and philosophy in Aristotle's biological works* (Hildesheim/New York 1975) 45 rightly noted: 'we have reason to suppose that the works of Aristotle included in the Corpus never left his possession until his death, and thus that points of view which he had given up ought to be rather difficult to find in these works'.

⁷ For an illustration of this phenomenon, see T.S. Kuhn, *The structure of scientific revolutions* (Chicago 1962; 21970) 77ff.

part of Iamblichus' *Protrepticus* was accepted as a witness to the content of Aristotle's lost *Protrepticus*, though Iamblichus never mentions the name of Aristotle as his source. The acceptance of these texts meant that the texts of Cicero, who explicitly says that Aristotle related man's soul to a 'fifth substance', could not be accepted. But Cicero's texts could have provided the key to a better understanding of Aristotle's definition of the soul in *De anima* II 1.

The weakness of many assumptions

In the fourth place, this study could be useful for examining which secondary hypotheses have been seriously defended in the modern literature on Aristotle to explain the philosopher's work, hypotheses which should have been considered unacceptable in their consequences.

As an example I mention the assumption that within the Aristotelian Corpus the ethics support a recognizably older psychological theory than Aristotle's own final treatment of this subject in *De anima*. We could also point to the *Parva naturalia*, which according to W.D. Ross argue an older psychological view not compatible with *De anima*, but which do repeatedly refer to the discussions of *De anima*.⁸ For this would have to lead to the assumption that after finishing *De anima* Aristotle did not give any more lectures on ethics or on the themes of the *Parva naturalia* and did not think it worthwhile to adapt his earlier work to his new insights. It would also have to lead to the assumption that any suggestion of internal systematics in the Corpus could not come from Aristotle himself but from a later redactor. But this last assumption would in turn have important consequences for our view whether Aristotle's own insights can be retrieved from the writings of the Corpus.⁹

As a second example I mention W. Jaeger's claim that during Plato's life Aristotle followed in the footsteps of the master, for as long as twenty years, abandoning this path and taking an almost

⁸ For a blatant example, cf. W.D. Ross, *Aristotle, Parva naturalia* 318, which I discussed in chap. 5 above.

⁹ Similar issues occur in texts viewed as later interpolations in *Phys.* VIII or *Cael.* and supposedly intended to expand the doctrine of the one Unmoved Mover into a doctrine of a plurality of Movers. On this, see H.A. Wolfson, 'The plurality of immovable movers in Aristotle, Averroes and St. Thomas', *Harv. Stud. in Class. Philol.* 63 (1958) 233-253, repr. in id. *Studies*, vol. I (Cambridge, Ma. 1973) 2-3.

modern, positivistic direction only after the admired teacher had died.

I also mention here the categorical certainty with which A.J. Festugière rejected the unanimous tradition in Antiquity that Aristotle supported a special doctrine of divine Providence in which Providence operates only in the supralunary part of the cosmos. Now that we have seen in chapter 14 how harmoniously this doctrine links up with Aristotle's other views, we shall have to conclude that Festugière was guilty of scholarly hubris. The fact that he believed that this classical tradition could be explained with reference to the work *On the cosmos*, which he regarded as inauthentic and to which he assigned a late date, makes the case all the more ironic.

Another widely shared assumption is the idea that Iamblichus' *Protrepticus* used work by Aristotle and in such a way that we can reasonably regard these passages as fragments of Aristotle's *Protrepticus*. Absurdly, nobody has addressed the fact that Iamblichus represents the theory of Aristotle's *De anima* in a highly specific manner, and that the same psychological theory can be observed in the passages of his *Protrepticus*—so that the theory could then be regarded as characteristic of Aristotle's *Protrepticus* and indeed of his entire middle period.¹⁰ The hypercriticism always found in the debate over *De mundo*, which was labelled pseudo-Aristotelian in the last century on the strength of arguments which nobody still uses, but which have been continually replaced by others, forms a glaring contrast with this.

Aristotle's philosophy distinguishes not two but four 'causes'

Owing to Alexander of Aphrodisias' incorrect interpretation of one word in Aristotle's *De anima*, Aristotle's philosophy has come to be characterized as 'hylomorphistic', at least as regards the works of the Aristotelian Corpus, which are seen to represent Aristotle's final and scientific conception. Curiously, however, Aristotle himself never presented his own view as a doctrine of two principles. On the contrary, he repeatedly emphasized that a third principle is necessary: an efficient principle. And he rejects Platonic philosophy precisely because, in his interpretation, it is hylomorphistic and therefore inadequate.

¹⁰ See chap. 12 above.

The traditional hylomorphistic explanation of *De anima* is self-contradictory because it fails to explain how the soul, which does not in itself possess movement according to Aristotle, is capable of forming the visible body, achieving unity of its various sensory activities, and setting and keeping the body in motion, whereas Aristotle had attacked Plato's psychology precisely for viewing the soul as the principle of self-movement.

But Aristotle, who had accused Plato of failing to explain in what way imitations of Ideas are effected in visible reality, took the soul to be a dynamic principle of form which regulates the generation of a concrete living creature by means of its instrumental body. Had Aristotle taken the visible body to be the *sôma organikon* of the soul and all the instrumental parts of this concrete body to be *organa* of the (incorporeal) soul, he would have had to explain in what sense there can be said to be *koinônia* between the soul which acts and the body which undergoes action.¹¹ But there can be no question of a *koinônia* between an immaterial principle which has no movement of its own and a material body which can only be moved by something else.

If we want to do justice to Aristotle's intentions as we find them in the Aristotelian Corpus and can reconstruct them for his lost works, we will have to characterize his philosophy as a *cybernetic instrumentalism*, that is, as a philosophy in which the reality of concrete visible bodies is governed by an immaterial regulative principle, of which the formal plan for the cosmos or for a concrete body of a living creature is executed by mediation of an instrumental fine-corporeal body, i.e. ether or *pneuma*.

The need to reconsider the works of which Aristotle's authorship is disputed

If my proposition regarding Aristotle's hylomorphism is correct, it means that for centuries the question whether certain works and certain views can be considered 'Aristotelian' was judged on an incorrect criterion, one not derived from Aristotle himself but a paradigm introduced by Alexander of Aphrodisias.

In particular, works from the Aristotelian Corpus marked as being influenced by Stoic ideas will have to be investigated with a new openness, to examine whether they are not in fact soundly Aristotelian

¹¹ Cf. *Anim.* I 3, 407b17-19 and chap. 4 above.

works containing doctrines which had a direct effect on the Stoic tradition.

Aristotle's doctrine of dynamis

The reconstruction of Aristotle's psychology shows that it emphatically and essentially distinguished two levels of interaction. In the first place there is the purely physical level of interaction of the four sublunary elements and their compounds, of the fifth element and the four elements together, and of the instrumental body and the coarse-material components of the living creature's body.

Next, however, there is a psychico-physical interaction between the incorporeal First Unmoved Mover and the outer celestial sphere; and, analogously, the psychico-physical interaction between the incorporeal formal principle which the soul is and the instrumental *pneuma*. On both levels, i.e. the purely physical and the psychico-physical, Aristotle can talk about this interaction as a matter of 'activity' and 'passivity'. But he did maintain an emphatic distinction.

In the case of the psychico-physical interaction there is no question of reciprocity or of proportionality of action and reaction. There is *orexis* and *erôs* on the part of the instrumental body and there is action on the instrumental body on the part of the soul-principle and the First Unmoved Mover. Ultimately, therefore, Aristotle reduces all physical movement to a movement or force which is non-physical. Though Aristotle's most fundamental criticism of Plato was that his explanation of physical reality involved a *metabasis eis allo genos*, in that he reduced the reality of bodies to the spatial and intelligible reality of planes and ideal numbers,¹² he himself cannot avoid a *metabasis eis allo genos* on this point either. The doctrine of the psychic *powers*¹³ therefore plays a role in biology and anthropology analogous to that of the *Power* which proceeds from God and is immanent in the cosmos and can be clearly distinguished from its essence according to *De mundo* 6.¹⁴ The motive for Aristotle's introduction of the term '*entelecheia*' was no doubt that, more than Plato, he was aware of the

¹² J.J. Cleary, *Aristotle and mathematics. Aporetic method in cosmology and metaphysics* (Leiden 1995) 71ff.

¹³ Cf. Arist. *Gener. anim.* I 19, 726b22; 727b16; II 1, 734b11; 3, 736b29; *Anim.* II 2, 413a26; a33; 3, 414a29; 31; 4, 415a25; b23; 416a19; 21; b18; *Juv.* 1, 467b17: τὰ μὲν οὖν ἄλλα τῆς ψυχῆς ἢ μορία ἢ δυνάμεις. *Resp.* 8, 474b10.

¹⁴ *Mu.* 6, 397b9-398a6. Cf. G. Reale, A.P. Bos (1995) *ad loc.*

process of (biotic) development in time. And he saw this process as a process from the conception to the death of the individual creature. This means that the 'dynamization of the Ideas' which is sometimes mentioned in connection with Philo of Alexandria flows from Aristotle's rejection of Plato's doctrine of 'separate' Ideas, and his theory that souls as incorporeal formal principles exert power over the instrumental soul *sôma* with which they are connected in order to realize all their (non-intellectual) soul-functions, as *enhyla eidè*.

What, then, in Aristotle's view, is essential to the generation of a new living creature? It is the entrance of the soul's *dynamis* in the matter for the embryo of the concrete living creature, matter which is supplied by the female specimen.

But precisely Aristotle's introduction of *entelecheia* as a technical philosophical concept makes it clear that the soul as 'first *entelecheia*' is present from the conception and not at a much later stage, when the visible bodies of humans or animals are fully grown. Aristotle is aware that many human beings never achieve the actual 'purpose' of being human. Yet he maintains that they cannot be characterized as 'animals' for this reason. From the time that they are conceived, human beings are 'human' through the presence of the soul as 'first entelechy'. He does regard the continued 'dormancy' of the potential to achieve *gnôsis* and intellectuality as a human fault and shortcoming.

The parallelism between Aristotle's psychology and his theology

There is a striking parallel in the ambivalence of the modern scholarly debate regarding Aristotle's theology and his psychology. A group of eminent authors has argued that in his theology Aristotle initially conceived of the divine as being identical with the fifth element, which forms part of the cosmos. Aristotle's theology was therefore a purely cosmic theology, which he only complemented in a later phase of his philosophical activity with a theology of a deity transcending the cosmos, the First Unmoved Mover.

In the same way scholars have seriously argued that Aristotle's psychology was materialistic or hylozoistic for at least part of his scientific career.¹⁵ Only at a later stage did Aristotle develop his

¹⁵ Cf. chap. 1 with n. 16 above.

hylomorphic psychology, in which the soul is declared to be incorporeal.

However, it is hard to make clear, both for Aristotle's theology and for his psychology, what motives led Aristotle to abandon his earlier views and accept his later, final conception. Also there are indications which seem to suggest that facets of the 'later' view were argued in writings usually dated to an early period.

These problems disappear once we see that, both in his early and in his late writings, Aristotle distinguished between a highest, immaterial reality, that of the Intellect, and a subordinate reality connected with a special fine-corporeal body, which Aristotle referred to as the realm of the psychic.

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